DOCKET

SUPREME COURT
OF THE UNITED STATES

No. 10-8505
Title: Sandy Williams, Petitioner
v
Illinois
Docketed: January 20, 2011
Lower Ct: Supreme Court of Illinois
Case Nos.: (107550)
Decision Date: July 15, 2010
Rehearing Denied: September 27, 2010
Questions Presented

~~Date~~~	~~~~~~~~Proceedings and Orders~~~~~~~~~~~~~~~~~~~~~~
Dec 17 2010	Petition for a writ of certiorari and motion for leave to proceed in forma pauperis filed. (Response due February 22, 2011)
Feb 4 2011	Waiver of right of respondent Illinois to respond filed.
Feb 17 2011	DISTRIBUTED for Conference of March 4, 2011.
Feb 24 2011	Response Requested. (Due March 28, 2011)
Mar 29 2011	Order extending time to file response to petition to and including April 27, 2011.
Apr 27 2011	Brief of respondent Illinois in opposition filed.
May 4 2011	Reply of petitioner Sandy Williams filed. (Distributed)
May 11 2011	DISTRIBUTED for Conference of May 26, 2011.
Jun 23 2011	DISTRIBUTED for Conference of June 27, 2011.
Jun 28 2011	Motion to proceed in forma pauperis and petition for a writ of certiorari GRANTED.
Jul 29 2011	The time to file the joint appendix and petitioner's brief on the merits is extended to and including August 31, 2011.
Jul 29 2011	The time to file respondent's brief on the merits is extended to and including October 19, 2011.
Aug 1 2011	Consent to the filing of amicus curiae briefs, in support of either party or of neither party, received from counsel for the respondent.
Aug 23 2011	Joint appendix filed. (Statement of costs filed)
Aug 31 2011	Brief of petitioner Sandy Williams filed.
Sep 1 2011	Consent to the filing of amicus curiae briefs, in support of either party or of neither party, received from counsel for the petitioner.
Sep 7 2011	Brief amici curiae of California Public Defenders Association, et al. filed.
Sep 7 2011	Brief amicus curiae of the Innocence Network filed.
Sep 7 2011	Brief amicus curiae of Richard D. Friedman filed.

Sep 7 2011	Brief amici curiae of Public Defender Service for the District of Columbia and National Association of Criminal Defense Lawyers filed.
Sep 12 2011	SET FOR ARGUMENT on Tuesday December 6, 2011.
Sep 14 2011	CIRCULATED.
Sep 27 2011	Record received from Supreme Court of Illinois. (1 envelope)
Sep 27 2011	Record received from State Appellate Defender First Judicial District. (1 box)
Sep 30 2011	Record received from Appellate Court First District of Illinois. (1 envelope)
Oct 19 2011	Brief of respondent Illinois filed. (Distributed)
Oct 26 2011	Brief amicus curiae of the United States filed. (Distributed)
Oct 26 2011	Brief amici curiae of National District Attorneys Association, et al. filed. (Distributed)
Oct 26 2011	Brief amici curiae of New York County District Attorney's Office, et al. filed. (Distributed)
Oct 26 2011	Brief amici curiae of Ohio, et al. filed. (Distributed)
Oct 26 2011	Motion of the Solicitor General for leave to participate in oral argument as amicus curiae and for divided argument filed.
Nov 14 2011	Letter from counsel for the petitioner proposing to lodge copies of a written report of a laboratory examination conducted by Cellmark Diagnostics on February 15, 2010. (Distributed)
Nov 18 2011	Reply of petitioner Sandy Williams filed. (Distributed)
Nov 22 2011	Motion of the Solicitor General for leave to participate in oral argument as amicus curiae and for divided argument GRANTED.
Nov 25 2011	Letter received from counsel for the respondent objecting to the proposed lodging of the Cellmark Diagnostics report of February 15, 2010. (Distributed)
Nov 30 2011	Petitioner's lodging approved.
Dec 1 2011	Lodging consisting of the forensic report prepared by Cellmark Diagnostics received. (Distributed)
Dec 6 2011	Argued. For petitioner: Brian W. Carroll, Chicago, Ill. For respondent: Anita Alvarez, State's Attorney, Chicago, Ill.; and Michael R. Dreeben, Deputy Solicitor General, Department of Justice, Washington, D. C. (for United States, as amicus curiae.)

PETITION FOR WRIT OF CERTIORARI

No.

IN THE

SUPREME COURT OF THE UNITED STATES

October Term, 2010

SANDY WILLIAMS, Petitioner,

-vs-

PEOPLE OF THE STATE OF ILLINOIS, Respondent.

On Petition For Writ Of Certiorari

To The Supreme Court Of Illinois

PETITION FOR WRIT OF CERTIORARI

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QUESTION PRESENTED FOR REVIEW

Whether a state rule of evidence allowing an expert witness to testify about the results of DNA testing performed by non-testifying analysts, where the defendant has no opportunity to confront the actual analysts, violates the Confrontation Clause.

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No.

IN THE

SUPREME COURT OF THE UNITED STATES

October Term, 2010

SANDY WILLIAMS, Petitioner,

-vs-

PEOPLE OF THE STATE OF ILLINOIS, Respondent.

On Petition For Writ Of Certiorari

To The Supreme Court Of Illinois

The petitioner, Sandy Williams, respectfully prays that a writ of certiorari issue to review the judgment of the Supreme Court of Illinois.

OPINION BELOW

The opinion of the Supreme Court of Illinois is published at *People v. Williams*, 238 Ill. 2d 125 (2010). A copy of the opinion is attached as Appendix C. A copy of the order denying rehearing is attached as Appendix D.

JURISDICTION

On July 15, 2010, the Illinois Supreme Court issued an opinion affirming the judgment of the appellate court affirming Petitioner's conviction. (App. C) The Illinois Supreme Court denied rehearing on September 27, 2010. (App. D) This petition is being filed within 90 days of the order of the Illinois Supreme Court denying the petition for rehearing. The jurisdiction of this Court is invoked under 28 U.S.C. §1257(a).

CONSTITUTIONAL PROVISION INVOLVED

The Sixth Amendment to the United States Constitution provides in relevant part: "In all criminal prosecutions, the accused shall enjoy the right . . . to be confronted with the witnesses against him." U.S. Const. amend VI.

STATEMENT OF THE CASE

In *Melendez-Diaz v. Massachusetts*, 129 S. Ct. 2527 (2009), this Court held that the Confrontation Clause is violated where the prosecution introduces reports of forensic analysis into evidence without the defendant being given an opportunity to cross-examine the analysts who authored the reports. *Id.* at 2532. In this case, the prosecution presented, over defense objections, the results of forensic DNA analysis through the testimony of an expert witness who took no part in the analysis and had no personal knowledge of the procedures and methodologies used during the analysis. The forensic report itself was not introduced into evidence. Under the Illinois rules of evidence, an expert witness is permitted to testify to the facts and data underlying her opinion, even when such evidence would otherwise be inadmissible, so long as the facts and data are of a type reasonably relied upon by experts in the field. *Wilson v. Clark*, 84 Ill. 2d 186, 192–96 (1981) (adopting Federal Rules of Evidence 703 and 705). Distinguishing *Melendez-Diaz*, the Illinois Supreme Court found no Confrontation Clause violation in this case, holding that the evidence regarding the DNA analysis was presented merely to explain the expert's opinion, not for its truth.

Trial

At trial, L. J. testified that on February 2, 2000, a man grabbed her from behind as she walked home from work. The man claimed that he had a gun and forced her into a beige station wagon, where he sexually assaulted her. The man

also took L. J.'s money and some of her personal belongings. After the assault, L. J. ran home and her mother called 911.

After L. J. told the responding officers what had happened, the officers issued a "flash" message for a black male, 5' 8", wearing a black skull cap, black jacket, and jeans driving a beige station wagon. L. J. was then transported to the hospital, where a vaginal swab and blood sample were taken in order to prepare a sexual assault kit.

While L. J. was being treated at the hospital, the police stopped James McChristine near the scene of the attack. McChristine fit the description of the offender and he was driving a beige station wagon. The police brought McChristine to the hospital, and while he stayed in the parking lot, one of the officers brought his driver's license inside to show L. J. L. J. told the officer that the person pictured on the license might be the offender, but she wanted to see him in person. The officer brought her out to the parking lot to view McChristine. The officer testified that L. J. positively identified McChristine as her attacker. L. J., however, testified that she told the police McChristine was not her attacker. The officers brought McChristine to the police station and handed the investigation over to a detective. The detective went to the hospital to pick up the assault kit and talk with L. J. He brought L. J. back to the station, where she again viewed McChristine. She stated that McChristine was not her attacker, and he was released.

Sandy Williams was arrested over a year later on April 17, 2001. That same day, L. J. identified Williams in a lineup.

Sandra Lambatos, a forensic scientist from the Illinois state police crime labs, testified that the samples from L. J.'s sexual assault kit were sent to Cellmark diagnostic laboratory in Germantown, Maryland, for DNA analysis. Lambatos testified that Cellmark derived a DNA profile for the person whose semen was recovered from L. J. Lambatos conducted no analysis of the assault kit samples and she stated that her testimony was based upon the report provided by Cellmark. She further stated that she was not aware of what procedures Cellmark used to produce the DNA profile in this case, whether Cellmark had calibrated its equipment, or how Cellmark handled the samples once it received them. Over defense counsel's objections, Lambatos testified that it was her opinion that the DNA profile provided by Cellmark statistically matched the profile for Williams contained in the police crime database.

On cross-examination, Lambatos stated that Cellmark reported a mix of genetic profiles from which it had deduced the profile of L. J.'s attacker. Lambatos also stated that Cellmark's report indicated the presence of genetic material that did not match either L. J.'s profile or the deduced profile of the offender. No one representing Cellmark testified at trial. Cellmark's report itself was not introduced into evidence.

After Lambatos testified, defense counsel moved to exclude the DNA evidence, arguing, among other things, that because no one from Cellmark testified as to the testing procedures, the admission of the evidence violated Williams's

confrontation rights under *Crawford v. Washington*, 541 U.S. 36 (2004). The trial court denied the motion.

The trial court found Williams guilty of two counts of aggravated criminal sexual assault, and one count each of aggravated kidnapping and aggravated robbery. Williams again argued in his motion for new trial that the DNA evidence violated his right to confrontation. The trial court denied the motion and sentenced Williams to nature life for the sexual assault charges, a 60-year term for the aggravated kidnapping count, and a 15-year term for the aggravated robbery count.

Appeal

On appeal, Williams argued, among other things, that his right to confrontation was violated where the trial court allowed Lambatos to testify as to the results of the DNA analysis conducted by Cellmark when he was not given an opportunity to cross-examine any of Cellmark's analysts. The Appellate Court of Illinois affirmed Williams's conviction, with one justice dissenting.[1] *People v. Williams*, 385 Ill. App. 3d 359 (1st Dist. 2008). As is relevant here, the appellate court held that the Confrontation Clause was not violated because the evidence

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[1] The dissenting justice wrote that the DNA evidence should have been excluded because the State failed to establish a proper foundation. *Williams*, 385 Ill. App. 3d at 371–77 (Cunningham, J., dissenting). The justice further wrote that because of the weakness of L. J.'s identification of Williams and the devastating effect the DNA evidence had on Williams's defense, the erroneous admission of the DNA evidence was not harmless. *Id.* The justice did not reach the Confrontation Clause issue.

regarding Cellmark's DNA analysis did not constitute hearsay as it was not presented to establish its truth. *Id.* at 368–70.

The Illinois Supreme Court granted Williams's petition for leave to appeal. While the case was pending, this Court issued its opinion in *Melendez-Diaz v. Massachusetts*, 129 S. Ct. 2527 (2009), clarifying that forensic laboratory reports are testimonial under *Crawford*. The Illinois Supreme Court affirmed the judgement of the appellate court. Noting that under Illinois rules of evidence, the facts and data disclosed by an testifying expert to explain the basis of her opinion are not considered to be admitted for their truth, a majority of the Illinois Supreme Court held that Lambatos's testimony regarding Cellmark's report did not constitute hearsay. (App. C-12–19) Accordingly, the Illinois Supreme Court distinguished *Melendez-Diaz* and found no Confrontation Clause violation. (App. C-19) Two specially concurring justices wrote that the DNA evidence should have been excluded for lack of proper foundation, but that the error was harmless. (App. C-20–26) The justices did not reach the Confrontation Clause issue. Williams's petition for rehearing was denied.

REASON FOR GRANTING CERTIORARI

The Confrontation Clause of the Sixth Amendment requires that a defendant be given the opportunity to test in the "crucible of cross-examination" the "honesty, proficiency, and methodology" of the analyst who produced forensic evidence presented against the defendant at trial. *Melendez-Diaz v. Massachusetts*, 129 S. Ct. 2527, 2538 (2009); *Crawford v. Washington* 541 U.S. 36, 61 (2004). The Illinois Supreme Court's holding that the Confrontation Clause is not offended when the prosecution presents the results of forensic testing performed by non-testifying analysts through the testimony of an expert witness who took no part in the analysis is therefore incorrect. The Illinois Supreme Court's conclusion that the out-of-court statements were not introduced for their truth is unsupportable, as logic dictates that the trier of fact necessarily must have considered the truth and accuracy of the statements in order to evaluate the expert's testimony. Both federal and state courts are divided over whether such testimony violates the Confrontation Clause. Given the widespread use of forensic evidence in criminal trials, the resolution of this issue is of critical importance to the interests of justice. For these reasons, this Court should grant certiorari in this case.[2]

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[2] A similar issue—whether the prosecution may introduce a forensic report authored by a non-testifying analyst via a surrogate expert witness— is currently pending before this Court in *New Mexico v. Bullcoming*, 226 P.3d 1 (N.M. 2010), *cert. granted*, 131 S. Ct. 62 (Sept. 28, 2010). However, in *Bullcoming*, unlike here, the forensic report in question was itself entered into evidence against the defendant.

I. The Illinois Supreme Court's conclusion that out-of-court statements made by non-testifying forensic analysts presented to explain the basis an expert witness's opinion do not constitute hearsay is incorrect and undermines this Court's holdings in *Crawford* and *Melendez-Diaz*.

This Court has held that under the Confrontation Clause of the Sixth Amendment, the testimonial statements of a witness against a defendant are inadmissible unless the witness appears at trial or, if the witnesses is unavailable, the defendant had a prior opportunity to cross-examination that witness. U.S. Const. amend. VI; *Crawford v. Washington*, 541 U.S. 36, 68 (2004); *Melendez-Diaz v. Massachusetts*, 129 S. Ct. 2527, 2531 (2009). The Confrontation Clause therefore does not allow the prosecution to present one person's testimonial statements through the trial testimony of another. *Crawford*, 541 U.S. at 68; *Davis v. Washington*, 547 U.S. 813 (2006). In *Melendez-Diaz*, this Court further instructed that when forensic reports are presented as evidence against a defendant, the Confrontation Clause guarantees the defendant the opportunity to test through cross-examination the "honesty, proficiency, and methodology" of the analyst who actually performed the forensic analysis. *Melendez-Diaz*, 129 S. Ct. at 2536–38.

It is clear from these principles that the Confrontation Clause does not allow an expert witness to testify about the results of a forensic analysis conducted by non-testifying analysts. First, as this Court explained in *Melendez-Diaz*, forensic reports used to prove facts establishing a defendant's guilt constitute testimonial

statements.[3] *Id.* at 2532. Second, because the expert witness has no personal knowledge of the procedures and methodologies employed, the defendant is not able to test the reliability of the forensic analysis in "the crucible of cross-examination" as the Confrontation Clause requires. *Crawford*, 541 U.S. at 61; *Melendez-Diaz*, 129 S. Ct. at 2536–38. The Illinois Supreme Court's conclusion that the Confrontation Clause was not implicated in this case was therefore erroneous.

The Illinois Supreme Court's decision was based upon Illinois's adoption of Federal Rule of Evidence 703 ("FRE 703") which provides that an expert witness may rely on otherwise inadmissible evidence so long as the evidence is "of a type reasonably relied upon by experts in the particular field in forming opinions or inferences upon the subject." *Wilson v. Clark*, 84 Ill. 2d 186, 192–96 (1981) (adopting FRE 703). According to the Illinois Supreme Court, out-of-court statements introduced pursuant to this rule do not constitute hearsay because the statements are presented not for their truth, but rather merely to help explain the basis of the testifying expert's opinion. *People v. Lovejoy*, 235 Ill. 2d 97, 142–43 (2009).

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[3] Although the issue was not reached by the Illinois Supreme Court, Cellmark's report is clearly testimonial under *Melendez-Diaz*. The report was used to establish facts demonstrating Williams guilt of the charged offense: the DNA profile of the offender. In addition, because the report was made at the request of the police, it was "made under circumstances which would lead an objective witness to reasonably believe that the statement would be available for use at a later trial." *Melendez-Diaz*, 129 S. Ct. at 2532, 2535.

The rationale underlying FRE 703 and its Illinois counterpart is that if the court finds that the underlying data is of a type reasonably relied upon by experts in the particular field, it is sufficiently reliable. Fed. R. Evid. 703 advisory committee note ("[The expert's] validation, expertly performed and subject to cross-examination, ought to suffice for judicial purposes."); *Wilson*, 84 Ill. 2d at 193 ("[T]he key element in applying Federal Rule 703 is whether the information upon which the expert bases his opinion is of a type that is reliable."). After *Crawford*, however, this rationale is no longer valid in the criminal context. In *Crawford*, this Court instructed that the Confrontation Clause "commands, not that evidence be reliable, but that reliability be assessed in a particular manner: by testing in the crucible of cross-examination." *Crawford*, 541 U.S. at 61. Allowing the prosecution to introduce testimonial statements of non-testifying witnesses through the testimony of an expert witness simply because the statements have been deemed reliable "is little more than an invitation to return to [the] overruled decision in [*Ohio v. Roberts*, 448 U.S. 56 (1980).]" *Melendez-Diaz*, 129 S. Ct. at 2536.

In addition, this evidentiary rule is merely one of convenience. *Wilson*, 84 Ill. 2d at 194 ("[A]llowing expert opinions based on facts not in evidence dispenses with 'the expenditure of substantial time in producing and examining various authenticating witnesses.'" (quoting FRE 703 advisory committee's note)). While such a rule may be appropriate in the civil context, criminal trials involve concerns—namely, a defendant's constitutional rights—that do not exist in civil

trials, and that trump evidentiary rules of convenience. This Court has repeatedly stated that a defendant's right to confrontation may not be set aside simply because it introduces additional burdens. *Melendez-Diaz*, 129 S. Ct. at 2540; *Davis*, 547 U.S. at 832–33.

Furthermore, the notion that the relied upon out-of-court statements introduced to help the trier of fact evaluate a testifying expert's opinion are not presented for their truth is logically bankrupt. Evidence upon which an expert bases his opinion supports the expert's opinion only to the extent that the evidence is reliable. Logic therefore dictates that for such basis evidence to assist the trier of fact in evaluating the expert's opinion, the trier of fact necessarily must first assess the reliability of the basis evidence itself. *See* Jennifer L. Mnookin, *Expert Evidence and the Confrontation Clause After Crawford v. Washington*, 15 J.L. & Pol'y 791, 816 (2007) ("Using the information for the permissible purpose of evaluating the expert thus necessarily requires a preliminary determination about the information's truth. The permitted purpose is therefore neither separate nor separable from an evaluation of the truth of the statement's contents."); *New York v. Goldstein*, 843 N.E.2d 727, 732–33 (N.Y. 2005) (out-of-court statements relied upon by expert constituted inadmissible testimonial hearsay under *Crawford* because the trier of fact had to accept the statements as true in order to evaluate the expert's testimony), *cert. denied*, 547 U.S. 1159 (2006). Even the Illinois Supreme Court, despite its adoption of FRE 703, has recognized that unless the

trier of fact considers the accuracy of the facts underlying an expert's opinion, the expert's opinion is a "meaningless conclusion." *People v. Anderson*, 113 Ill. 2d 1, 11 (1986). Accordingly, because the probative value of the out-of-court statements is dependant on the statements' truth, the statements are presented for the truth of the matter asserted. Richard D. Friedman, *The Elements of Evidence*, at 183 (2d ed. 1998) (an out-of-court statement is offered to prove the truth of the matter asserted "if the probative value of the out-of-court statement depends on its being true"). Indeed, it has been recognized that, while not labeled as such, Illinois's adoption of FRE 703 essentially created a new hearsay exception. Michael H. Graham, *Graham's Handbook of Illinois Evidence* § 703.1, at 684 (10th ed. 2010) (noting that the effect of Rule 703 is the same as if an additional exception to the rule against hearsay had been created).

This case provides a perfect illustration of the above principle. Lambatos did not provide any input into the determination of the DNA profile derived from the semen samples recovered from the victim. She did not preform any of the biological analysis on the DNA samples, and she did not review any of the raw data produced by such analysis. Rather, she merely performed the statistical matching of the DNA profile provided to her by Cellmark with a profile derived from a blood sample taken from Williams. Regardless of how accurate and reliable the trier of fact found the methods Lambatos employed in matching of the two profiles, if the trier of fact did not believe the Cellmark profile to be accurate—in other words, that it was not the profile of the offender—Lambatos's opinion that the two profiles matched would

have no evidentiary value. The trier of fact necessarily had to consider the truth and accuracy of Cellmark's profile in order to evaluate Lambatos's opinion. Cellmark's report therefore did constitute hearsay.

The fact that Williams was able to cross-examine Lambatos did not satisfy the requirements of Confrontation Clause. In *Melendez-Diaz*, this Court stressed that because forensic analysis is neither fool-proof nor immune from manipulation, the ability of a defendant to cross-examine the analysts who actually produced the evidence is critical to the defendant's right to confrontation. *Melendez-Diaz*, 129 S. Ct. at 2536–38. Lambatos took no part in the analysis that deduced the male DNA profile from the semen samples, and she did not even review the procedures Cellmark followed in deducing the DNA profile. As such, the opportunity to cross-examine Lambatos did not afford Williams the opportunity to challenge the "honesty, proficiency, and methodology" of Cellmark's analysts through the crucible of cross-examination, as the Confrontation Clause demands. *Melendez-Diaz*, 129 S. Ct. at 2538.

The Illinois Supreme Court's decision would also allow the prosecution to easily evade this Court's holdings in *Crawford* and *Melendez-Diaz*. For example, under Illinois's rule, the prosecution in *Melendez-Diaz* could have avoided the requirements of the Confrontation Clause by not introducing the forensic report itself but instead presenting the forensic evidence via an expert witness without affording the defendant any opportunity to test the honesty, proficiency, and methodology of the analysts through cross-examination. Surely, the Founders

would not condone a rule of evidence that would permit the prosecution to circumvent the Confrontation Clause in such a way. *Crawford*, 541 U.S. at 51 ("Leaving the regulation of out-of-court statements to the law of evidence would render the Confrontation Clause powerless to prevent even the most flagrant inquisitorial practices.").

Finally, the erroneous admission of the DNA evidence was not harmless beyond a reasonable doubt.[4] *Chapman v. California*, 386 U.S. 18, 24 (1967) (government has the burden of demonstrating that constitutional error in admitting improper evidence was harmless beyond a reasonable doubt). First, DNA evidence has a "mystical aura" of infallibility that has the power to overwhelm other evidence. *See* Joel D. Lieberman *et al.*, *GOLD versus PLATINUM: DO JURORS RECOGNIZE THE SUPERIORITY AND LIMITATIONS OF DNA EVIDENCE COMPARED TO OTHER TYPES OF FORENSIC EVIDENCE?*, 14 Psychol. Pub. Pol'y & L. 27 (February 2008) (summarizing studies indicating that DNA evidence is largely considered by the public to be almost 100% persuasive of a defendant's guilt). Second, the only remaining evidence against Williams, the victim's eventual

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[4] Although the specially concurring justices of the Illinois Supreme Court found the admission of the DNA evidence to be harmless, they did so by reasoning that the testimony of a single witness "is sufficient to convict a defendant." (App. C-26). This misstates the constitutional harmless error test, since the question of whether the remaining evidence was sufficient to sustain a conviction is a separate question from whether the error was harmless beyond a reasonable doubt. *United States v. Lane*, 474 U.S. 438, 86–87 (1963). Notably, the dissenting justice in the Illinois Appellate Court found that the admission of the evidence was not harmless, stating that the DNA evidence was devastating.

identification of him, was very weak. One of the officers who questioned the victim shortly after the assault indicated that the victim initially identified a man other than Williams as her attacker. It was not until over a year after the incident that the victim first identified Williams. It therefore cannot be said that the DNA evidence was harmless beyond a reasonable doubt.

For these reason, this Court should not allow the decision of the Illinois Supreme Court to stand.

II. There is a conflict among the state and federal courts on this issue.

Since this Court's decision in *Crawford*, both state and federal courts have been split as to whether out-of-court statements presented to explain the basis of an expert witness's opinion constitutes hearsay, and thus triggers the defendant's rights under the Confrontation Clause. This Court's decision in *Melendez-Diaz* has not served to resolve the conflict.

At least one federal appeals court and two state supreme courts have held that the Confrontation Clause does not permit out-of-court testimonial statements to be presented through expert testimony. *United States v. Mejia*, 545 F.3d 179 (2d Cir. 2008) (gang expert could not transmit testimonial statements directly to jury); *Commonwealth v. Avila*, 912 N.E.2d 1014 (Mass. 2009) (medical examiner could not testify to the underlying factual findings of non-testifying examiner who performed autopsy); *New York v. Goldstein*, 843 N.E.2d 727 (N.Y. 2005) (out-of-court statements of laypersons regarding the defendant's behavior relied upon by the prosecution's psychiatric expert constituted inadmissible testimonial hearsay under

Crawford because the trier of fact had to accept the statements as true in order to evaluate the expert's testimony), *cert. denied*, 547 U.S. 1159 (2006). A number of state appellate courts have come to similar conclusions. *E.g., People v. Dendel*, No. 247391, ___ N.W.2d ___, 2010 WL 3385552 (Mich. Ct. App. Aug. 24, 2010) (expert's testimony regarding the results of analysis of decedent's blood glucose level performed by non-testifying analysts upon which the expert based his opinion as to cause of death violated the Confrontation Clause); *People v. Dungo*, 98 Cal. Rptr. 3d 702 (Cal. Ct. App. 2009) (medical examiner's testimony regarding non-testifying examiner's autopsy report violated Confrontation Clause because jury necessarily had to evaluate truth and accuracy of the report in order to evaluate the testifying examiner's opinion), *rev. granted*, 220 P.3d 240 (Cal. Dec. 2, 2009).

In contrast, other federal appeal courts and state supreme courts have held that out-of-court statements relied upon by expert witnesses do not implicate a defendant's confrontation rights under the rationale that the statements do not constitute hearsay because they are introduced not for their truth but rather to explain the basis of the expert's opinion. *E.g., United States v. Pablo*, No. 09-2091, ___ F.3d ___, 2010 WL 4609188 (10th Cir. Nov. 16, 2010) (expert may testify to the data and information produced by non-testifying analyst, but not the analyst's ultimate conclusions); *State v. Lui*, 221 P.3d 948 (Wash. App. 2009), *rev. granted*, 228 P.3d 17 (Wash. Mar. 30, 2010); *State v. Tucker*, 160 P.3d 177 (Ariz. 2007), *cert. denied*, 552 U.S. 923 (2007). This reasoning has also been applied by state

appellate courts. *E.g., People v. Rutterschmidt*, 98 Cal. Rptr. 3d 390 (Cal. Ct. App. 2009), *rev. granted*, 220 P.3d 239 (Cal. Dec. 2, 2009).

In addition, a number of state high courts have held that a defendant's ability to confront an expert who reviewed the testimonial statements of a non-testifying analyst is sufficient to satisfy the Confrontation Clause. *State v. Mitchell*, 4 A.3d 478 (Me. 2010) (expert could testify to substance of autopsy report prepared by non-testifying); *Rector v. State*, 681 S.E.2d 157 (Ga. 2009) (expert could testify to substance of toxicology report prepared by non-testifying analyst).

This Court should use this case to resolve this conflict among the various courts.

III. This issue implicates the proper administration of criminal justice.

This Court has recognized that because forensic evidence is not immune from distortion and manipulation, it is critical for a defendant to be given the opportunity to test the analysts's "honesty, proficiency, and methodology" through confrontation. *Melendez-Diaz*, 129 S. Ct. at 2536–38. In *Melendez-Diaz*, this Court noted that "because forensic scientists often are driven in their work by a need to answer a particular question related to the issues of a particular case, they sometimes face pressure to sacrifice appropriate methodology for the sake of expediency. A forensic analyst responding to a request from a law enforcement official may feel pressure—or have an incentive—to alter the evidence in a manner favorable to the prosecution." *Id.* at 2536 (internal quotes and edits omitted). This

Court further explained that "[c]onfrontation is designed to weed out not only the fraudulent analyst, but the incompetent one as well," noting that "an analyst's lack of proper training or deficiency in judgment may be disclosed in cross-examination." *Id.* at 2537.

The history of forensic labs, including Cellmark, providing faulty results demonstrates that the opportunity to test the honesty, proficiency, and methodology of the actual forensic analyst through cross-examination is critical. *See* William C. Thompson, *Tarnish on the 'Gold Standard:' Understanding Recent Problems In Forensic DNA Testing*, 30 Champion 10, 11–12 (February 2006) (noting numerous instances of DNA labs, including Cellmark, producing faulty results due both to the failure to follow proper guidelines and to analysts manipulating data to cover up mistakes); Laura Cadiz, *Maryland-Based DNA Lab Fires Analyst Over Falsified Tests*, Balt. Sun, Nov. 18, 2004, at 1A (reporting that Cellmark fired an analyst for falsifying test data); Adam Liptak & Ralph Blumenthal, *New Doubt Cast on Crime Testing in Houston Cases*, N.Y. Times, Aug. 5, 2004, at A19 (reporting that a police DNA lab was shut down after it was discovered that analysts misinterpreted data, were poorly trained and kept shoddy records). The ability to cross-examine an expert who relied on the results of forensic testing but who took no part in the analysis, and thus has no personal knowledge of the procedures and methodologies used, does nothing to protect against fraudulent or faulty analysis.

Allowing the prosecution to present the findings of non-testifying forensic analysts via expert testimony allows the prosecution to perform an end run around the Confrontation Clause by depriving the defendant of the opportunity to test the reliability of the findings through cross-examination. This concern is not merely hypothetical. In a California case, a medical examiner explained that he was called to present the finding of another examiner because that examiner's questionable background made the prosecutors "feel it [was] too awkward to make them easily try their cases." *Dungo*, 98 Cal. Rptr. 3d 702, 708 (Cal. Ct. App. 2009). In finding a *Crawford* violation, the California Court of Appeals noted that the prosecution availed itself of the rule of evidence allowing it to use a surrogate expert witness with the specific intent of preventing the defense from testing the "honesty, proficiency, and methodology" of the examiner who conducted the autopsy through cross-examination. *Id.* at 714.

The practice condoned by the Illinois Supreme Court in this case—presenting forensic reports through the testimony of experts who took no part in the analysis—greatly inhibits a defendant's ability to expose fraudulent or faulty analysis by depriving him of the opportunity to cross-examine the actual analyst, undermining this Court's holdings in *Crawford* and *Melendez-Diaz*.

In sum, the Illinois Supreme Court's decision that an expert witness may present the DNA test results of non-testifying analysts to explain the basis of her opinion is both illogical and inconsistent with this Court's holdings in *Crawford* and

Melendez-Diaz. In addition, federal and state courts are deeply divided over this question. Because this issue is of critical importance for the administration of criminal justice, this Court should use this case to resolve the conflict among the courts.

CONCLUSION

For the foregoing reasons, petitioner, Sandy Williams, respectfully prays that a writ of certiorari issue to review the judgment of the Illinois Supreme Court.

Respectfully submitted,

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OPPOSITION BRIEF

No. 10-8505

IN THE

SUPREME COURT OF THE UNITED STATES

SANDY WILLIAMS,

Petitioner,

v.

ILLINOIS,

Respondent.

ON PETITION FOR A WRIT OF CERTIORARI TO
THE SUPREME COURT OF ILLINOIS

BRIEF IN OPPOSITION

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QUESTION PRESENTED

Whether this Court should grant certiorari to review the Illinois Supreme Court's judgment that a testifying expert's reliance on the results of DNA analysis conducted at a private laboratory did not implicate the Confrontation Clause because references to the data generated by non-testifying analysts was offered not for the truth of the matter asserted, but rather for the non-hearsay purpose of explaining the basis of the expert's own, independent opinions.

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BRIEF IN OPPOSITION

The certiorari petition should be denied. The Illinois Supreme Court's judgment rests on this Court's express pronouncement in *Crawford v. Washington*, 541 U.S. 36 (2004), that the Sixth Amendment's Confrontation Clause does not bar the admission of statements admitted for a purpose other than proving the truth of the matter asserted. In assessing whether the testimony of DNA expert Sandra Lambatos implicated petitioner's confrontation rights, the Illinois Supreme Court recognized that Lambatos referenced DNA testing conducted at Cellmark, a private laboratory, only to explain how she formed her own expert opinions. Thus, the only statements offered for the truth of the matter asserted against petitioner were Lambatos's opinions, which were introduced via her live in-court testimony and were subject to cross-examination. Cellmark's reports regarding DNA analysis of the vaginal swabs were not introduced at trial, nor did Lambatos parrot the reports during her testimony, thus distinguishing this case from *Melendez-Diaz v. Massachusetts*, 129 S.Ct. 2527 (2009), and *New Mexico v. Bullcoming*, 226 P.3d 1 (N.M.), *cert. granted*, 131 S.Ct 62 (2010). Despite petitioner's claim to the contrary, this case does not implicate any split in authority. Indeed, federal appellate courts and state high courts, when presented with similar facts, uniformly hold that a testifying expert may rely on the work of other experts in formulating opinions admitted pursuant to Federal Rule of Evidence 703 and its state counterparts without triggering Confrontation Clause concerns. The Illinois Supreme Court's judgment is in line with these decisions and the decisions of this Court.

STATEMENT

1. Petitioner Sandy Williams was convicted of two counts of aggravated criminal sexual assault and one count each of aggravated kidnapping and aggravated robbery. Pet. App. C1. At petitioner's bench trial, L.J. testified that petitioner approached her from behind as she walked near an alley on her way home from work on February 10, 2000. *Id.* at C2. Petitioner forced L.J. into a beige station wagon and ordered her to remove her clothes. *Id.* Petitioner vaginally penetrated L.J. with his penis while he choked her. *Id.*; R. III107-09. Petitioner then turned L.J. onto her stomach and attempted to penetrate L.J.'s anus with his penis. Pet. App. C2. Petitioner pushed L.J. out of the vehicle and drove away with L.J.'s coat, money and other items. *Id.* at C2.

L.J. ran home and her mother called the police. *Id.* Chicago police officers responded, spoke with L.J., and issued a "flash" message describing the offender and car. *Id.* Later, an emergency room doctor conducted a vaginal exam of L.J. and took vaginal swabs, which the doctor sealed in a criminal sexual assault evidence collection kit along with L.J.'s blood sample. *Id.* at C2-C3. The kit was inventoried by a Chicago Police detective and sent to the Illinois State Police ("ISP") Crime Lab for testing and analysis. *Id.* at C3.

On August 3, 2000, police arrested petitioner for an unrelated offense and, pursuant to court order, drew a blood sample from him. Pet. App. C3. Following the DNA analysis described below, L.J. identified petitioner from a line up on April 17, 2001. *Id.* at C4. Petitioner was then arrested for the instant offenses. *Id.* At trial, L.J. identified petitioner in court as the man who sexually assaulted her. R. III104.

Three witnesses testified at petitioner's trial concerning the DNA evidence in this case. First, ISP Crime Lab forensic scientist Karen Kooi testified that, using STR (short tandem repeat) DNA analysis, she extracted a DNA profile from petitioner's blood standard and entered the profile into the database at the ISP Crime Lab. *Id.* at C3.

Second, ISP Crime Lab forensic biologist Brian Hapack testified that he received L.J.'s sexual assault evidence collection kit and performed tests on the vaginal swabs that confirmed the presence of semen. *Id.* Hapack repackaged and sealed the vaginal swabs and L.J.'s blood standard in accordance with accepted procedure for preserving evidence for future DNA testing. *Id.*; R. JJJ48-49; R. JJJ52.

Third, former ISP Crime Lab forensic biologist Sandra Lambatos testified that L.J.'s vaginal swabs and blood standard were sent to Cellmark Diagnostic Laboratory in Germantown, Maryland, for DNA analysis on November 29, 2000.[1] Pet. App. C3. Cellmark returned the vaginal swabs and blood standard to the ISP Crime Lab on April 3, 2001. *Id.* After the trial court accepted Lambatos as an expert in forensic biology and forensic DNA analysis, she testified about polymerase chain reaction (PCR) DNA testing and explained how PCR-based analysis is used to identify a male DNA profile from semen. *Id.* at C4. The analyst isolates and extracts DNA from a sample, then amplifies it until a workable amount of DNA is present. *Id.* The amplified DNA is then examined through a genetic analyzer, and specific areas of interest are tagged with florescent markers, thus generating a DNA profile that can be compared to other profiles. *Id.*; R. JJJ62.

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[1] Lambatos testified that the ISP Crime Lab sent evidence samples to Cellmark during 2000-2001 to expedite the analysis of evidence and to reduce the backlog at the ISP Crime Lab, and she detailed the procedures surrounding this arrangement. R. JJJ63-65.

Lambatos testified that it is commonly accepted practice in the scientific community for one DNA expert to rely on the records of another DNA analyst to complete her own work and that she routinely relied on DNA analysis performed at Cellmark. Pet. App. C4-5. Lambatos further testified that Cellmark was an accredited laboratory and that Cellmark's testing and analysis methods were generally accepted in the scientific community. *Id.* at C4.

Lambatos testified that she was assigned to work on the instant case at the ISP Crime Lab. R. JJJ69-71. A computer match was generated of the male DNA profile identified in L.J.'s vaginal swabs to petitioner's DNA profile in the database. *Id.* After the database match was generated, Lambatos compared the male profile identified in L.J.'s vaginal swabs to the DNA profile identified by Kooi in petitioner's blood standard. *Id.*; Pet. App. C5. Lambatos explained that the ISP Crime Lab uses the database as an investigative tool; after a database search is run, the analysts examine the actual data to determine whether there is a DNA match. R. JJJ79. Thus, after the database match was generated in this case, Lambatos compared petitioner's DNA profile to the electropherogram of the E2 (sperm) fraction of L.J.'s vaginal swabs. R. JJJ91. In Lambatos's expert opinion, the semen from L.J.'s vaginal swabs was a match to petitioner. Pet. App. C5. Lambatos testified that the probability of this profile occurring in the general population was one in 8.7 quadrillion black, one in 390 quadrillion white, and one in 109 quadrillion Hispanic unrelated individuals. *Id.* Lambatos did not observe any degradation or irregularities in the sample from L.J.'s vaginal swab. *Id.*

On cross-examination, Lambatos repeated that Cellmark was an accredited

laboratory; it had to meet certain guidelines to receive accreditation and to perform DNA analysis for the ISP Crime Lab. *Id.* at C4. Lambatos further explained that calibrations and internal proficiencies had to be in place for Cellmark to perform the DNA analysis in this case. *Id.* While Lambatos did not personally observe the testing of the samples in the laboratory or do any biological testing herself, she reviewed the electropherogram of the vaginal swab and made her own determinations, interpretations, and conclusions about the evidence. *Id.* at C5; R. JJJ75-76. Specifically, Lambatos examined the electropherogram for the E2 fraction and the donor profile generated at Cellmark. R. JJJ80-82. The data indicated a mixture in the E2 fraction, and some of the alleles were consistent with the victim's profile. R. JJJ81, JJJ83. Lambatos explained that the female epithelial cells are separated from any possible sperm cells during differential extraction of a vaginal swab, thus resulting in either a single donor profile or a mixture. R. JJJ80-82.

Cellmark's report was not introduced into evidence at petitioner's trial. Pet. App. C5. While Lambatos referenced documents she reviewed in forming her own independent opinion and answered questions regarding the data at particular loci, she did not read the contents of any Cellmark report into evidence. *Id.*; R. JJJ75-87. Contrary to representations made in the petition,[2] Lambatos repeatedly testified that she reviewed the raw data generated at Cellmark, in addition to Cellmark's report and allele chart, and that she independently interpreted the data during her comparative analysis to petitioner's known DNA profile. R. JJJ75, JJJ80, JJJ81, JJJ82, JJJ91, JJJ98, JJJ101, JJJ103.

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[2] Petitioner incorrectly states that Lambatos "did not review any of the raw data produced by such analysis. Rather she merely performed the statistical matching of the DNA profile provided to her by Cellmark with a profile derived from a blood sample taken from Williams." Pet. at 14.

Furthermore, in response to defense questioning, Lambatos referenced the raw data to explain how interpretation of mixtures differs from single donor profiles, to illustrate how Cellmark's process and reporting guidelines differ from those used at the ISP Crime Lab, and to field specific questions from defense counsel regarding how she would interpret the allelic patterns identified at particular loci. R. JJJ84-88, JJJ90-95, JJJ97-99.

At the conclusion of Lambatos's testimony, petitioner moved to strike the evidence of testing completed at Cellmark on foundational and Sixth Amendment Confrontation Clause grounds. Pet. App. C5. The trial court denied the motion, stating: "I don't think this is a *Crawford* scenario, and I agree with the State that *** the issue is *** what weight do you give the test, not do you exclude it and accordingly your motion to exclude or strike the testimony of the last witness or opinions based on her own independent testing of the data received from Cellmark will be denied." *Id.* at C6.

Petitioner did not present any evidence. *Id.* The trial court ultimately found petitioner guilty of two counts of aggravated criminal sexual assault and one count each of aggravated kidnapping and aggravated robbery. *Id.* The court sentenced petitioner to two concurrent terms of natural life imprisonment for the aggravated criminal sexual assault convictions and a concurrent term of 15 years' imprisonment for aggravated robbery; the court sentenced petitioner to a consecutive term of 60 years' imprisonment for aggravated kidnapping. *Id.*

2. On appeal, the Illinois Appellate Court affirmed petitioner's convictions. *Id.*; *People v. Williams*, 895 N.E.2d 961 (Ill. App. Ct. 2008). In doing so, the court concluded that Lambatos's testimony did not violate petitioner's constitutional right to confrontation,

stating: "Cellmark's report was not offered for the truth of the matter asserted; rather, it was offered to provide a basis for [Lambatos's] opinion. Lambatos clearly testified that she performed her own evaluation of the data, which included Kooi's findings, Hapack's findings and Cellmark's report, prior to forming her opinion." Pet. App. A6. One justice dissented, concluding that the State failed to lay a sufficient foundation for Lambatos's opinion testimony as a matter of Illinois law. *Id.* at A7-10.

3. The Illinois Supreme Court granted leave to appeal. In his brief to the Illinois Supreme Court, petitioner argued that Lambatos should not have been allowed to testify about Cellmark's report because the report constituted testimonial hearsay. Petitioner further argued that, because the evidentiary value of Lambatos's opinion depended on the trier of fact accepting Cellmark's report as accurate, the report was offered for the truth of the matter asserted and constituted hearsay for Confrontation Clause purposes. While petitioner's case was pending, this Court issued its opinion in *Melendez-Diaz v. Massachusetts*, 129 S.Ct. 2527 (2009). In his reply brief to the Illinois Supreme Court, petitioner argued that *Melendez-Diaz* was directly analogous to his case and therefore compelled reversal of the state appellate court's judgment. Pet. App. C16-18.

The Illinois Supreme Court affirmed the state appellate court's judgment regarding Lambatos's testimony.[3] Pet. App. C1-19. Like the appellate court, the Illinois Supreme Court recognized that petitioner's constitutional right to confrontation was neither implicated nor violated by Lambatos's expert testimony. Pet. App. C12-19. The court

[3] The Illinois Supreme Court reversed the state appellate court's judgment on an unrelated sentencing issue and affirmed the sentence originally imposed by the trial court. Pet. App. C19.

reasoned that, under *Wilson v. Clark*, 427 N.E.2d 1322 (Ill. 1981), and its progeny (wherein Illinois adopted the pre-amended version of Federal Rule of Evidence 703), Lambatos's references to Cellmark's analysis of the vaginal swabs was not hearsay because it was not offered for the truth of the matter asserted. Pet. App. C12-19. Rather, Lambatos referenced DNA testing completed at Cellmark for the limited purpose of explaining the basis of her opinion. *Id.* Citing this Court's express pronouncement in *Crawford v. Washington*, 541 U.S. 36 (2004), that the Confrontation Clause does not bar the admission of testimonial statements admitted for a purpose other than proving the truth of the matter asserted, the Illinois Supreme Court concluded that "*Crawford* considerations did not apply here." Pet. App. C12, C18.

The Illinois Supreme Court also rejected petitioner's argument that this case is "directly analogous" to *Melendez-Diaz*. *Id.* In distinguishing *Melendez-Diaz*, the court noted that Cellmark's analysis was confined to processing the vaginal swabs and did not include the type of comparative analysis conducted by Lambatos. *Id.* at C18. The Illinois Supreme Court again highlighted that no Cellmark reports were introduced or read into evidence and that Lambatos testified about her own expertise, judgment and skill in interpreting the specific alleles identified in the vaginal swabs and her general knowledge of the protocols and procedures in place at Cellmark. *Id.* at C18.

Two justices opined in a special concurrence that the DNA evidence should have been excluded on Illinois-law foundational grounds, but concluded that the foundational error was harmless. Pet. App. C20-27. The specially concurring justices did not address the Sixth Amendment Confrontation Clause issue. *Id.*

REASONS FOR DENYING THE PETITION

I. The State Court Judgment Is In Accord With *Crawford* And Its Progeny And This Case Implicates No Split In Authority.

Forensic DNA expert Sandra Lambatos opined in court that petitioner's DNA profile was consistent with the male DNA profile identified in the victim's vaginal swabs. Lambatos's opinion was based on her comparative review of the reports and data generated during the DNA analysis of defendant's blood standard, the victim's blood standard, and the victim's vaginal swabs by forensic scientists at the Illinois State Police ("ISP") Crime Lab and Cellmark Diagnostic ("Cellmark"), a private laboratory. Although petitioner repeatedly suggests that Lambatos presented the DNA test "results" or "findings" of a non-testifying DNA analyst during her testimony, in fact no such out-of-court statement was elicited during Lambatos's testimony. Pet. at 10, 21. Lambatos did not read from any reports or parrot the findings of another DNA analyst at trial. Rather, Lambatos presented her own independent opinions regarding the physical evidence and was subject to extensive cross-examination regarding those opinions. Accordingly, her testimony did not implicate petitioner's confrontation right.

Because no Cellmark report was admitted into evidence at petitioner's trial, the Illinois Supreme Court correctly recognized that *Melendez-Diaz v. Massachusetts*, 129 S.Ct. 2527 (2009), did not control its analysis of petitioner's Sixth Amendment confrontation claim.[4] *See also Davis v. Washington*, 547 U.S. 813, 832 n.6 (2006) ("The Confrontation Clause in no way governs police conduct, because it is the trial *use* of, not

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[4] This case is likewise distinct from *New Mexico v. Bullcoming*, 226 P.3d 1 (N.M. 2010), *cert. granted*, 131 S.Ct. 62 (2010), which involved the admission of a report written by a different analyst than the analyst who testified at trial.

the investigatory *collection* of, *ex parte* testimonial statements which offends that provision") (emphasis in original); *United States v. Turner*, 591 F.3d 928, 932-934 (7th Cir.) (noting that "*Melendez-Diaz* did not do away with Federal Rule of Evidence 703"), *cert. pending*, No. 09-10231 (Apr. 12, 2010). The Illinois Supreme Court adhered to this Court's explicit pronouncement in *Crawford v. Washington*, 541 U.S. 36 (2004), that the Confrontation Clause does not bar the use of statements admitted for purposes other than proving the truth of the matter asserted, to determine that Lambatos's expert testimony did not violate the Sixth Amendment. *See Crawford* 541 U.S. at 59 n.9, *citing Tennessee v. Street*, 471 U.S. 409, 414 (1985). The Illinois Supreme Court found that, under Federal Rule of Evidence 703 ("FRE 703"),[5] any references to the data and facts underlying Lambatos's opinion were offered not for the truth of the matter asserted, but rather for the non-hearsay purpose of explaining the basis of her opinion. Thus, the Illinois Supreme Court properly concluded that Lambatos's testimony about Cellmark did not constitute "hearsay" and "*Crawford* considerations did not apply here." Pet. App. C18.

The Illinois Supreme Court's finding that Lambatos's reliance on laboratory tests and analysis performed by other scientists did not implicate petitioner's Sixth Amendment confrontation right is rooted in the text of *Crawford* and is in accord with federal appellate court and other state high court opinions. Thus, the judgment below does not, as petitioner maintains, undermine this Court's holdings in *Crawford* and *Melendez-Diaz*, nor does it implicate any split of authority regarding expert testimony. To the contrary, federal and

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[5] The Illinois Supreme Court adopted FRE 703 in *Wilson v. Clark*, 417 N.E.2d 1326-1327 (Ill. 1981). Illinois has not adopted the 2000 amendment to FRE 703. Pet. App. C14; *see also* Fed. R. Evid. 703 (2000).

state court decisions that address expert testimony and the Confrontation Clause uniformly hold that testifying experts may rely on the work of non-testifying experts to form independent opinions and explain the bases of their own opinions at trial.

In *United States v. Pablo*, 625 F.3d 1285, 1290-1295 (10th Cir. 2010), the testifying DNA analyst had no role in the serology or DNA analysis performed on the evidence or in preparing the lab reports attendant to the laboratory bench work. The testifying expert conveyed to the jury that serology and DNA analysis connected Pablo to DNA found on the victim's genitalia and a condom recovered from the crime scene. *Id.* at 1290. Neither the serology report nor the DNA report was admitted into evidence. *Id.* at 1294-1295. Reviewing the claim for plain error, the Tenth Circuit found that Pablo failed to demonstrate a Confrontation Clause violation. *Id.* at 1290-1295. The Court noted that, under FRE 703, an expert may testify to her opinion even if she based that opinion on otherwise inadmissible facts or data, including testimonial statements, and that such testimony typically does not implicate a defendant's confrontation rights because the statements are not offered for their substantive truth. *Id.* at 1292. The Court also distinguished such testimony from an expert who fails to convey her own independent judgment and simply parrots another's testimonial hearsay, as well as cases involving the actual admission of out-of-court testimonial statements as evidence, like *Melendez-Diaz*. *Id.* at 1292, 1294; *see also United States v. Richardson*, 537 F.3d 951, 960-961 (8th Cir. 2008) (DNA expert's testimony, informed by reports of others, was not hearsay because it related her own independent conclusion, and therefore did not violate Confrontation Clause), *cert. denied*, 129 S.Ct. 2378 (2009); *United States v. McGhee*, 627 F.3d 454, 459-

460 (1st Cir. 2010) (inclusion of technical test data in report allowed expert to draw own scientific conclusion regarding nature of substance); *United States v. Moon*, 512 F.3d 359, 362 (7th Cir.) ("the Sixth Amendment does not demand that a chemist or other testifying expert have done the lab work himself"), *cert. denied*, 129 S.Ct. 39 (2008).

Similarly, in *Smith v. State*, 28 So.3d 838, 553-555 (Fla. 2009), the Florida Supreme Court held that the Confrontation Clause was not implicated when an FBI DNA lab supervisor testified to her own opinion regarding a DNA match because, although other biologists completed the bench work on the evidence samples, the testifying expert performed the comparative analysis of the data and calculated the statistical probability of the match. In *Pendergrass v. State*, 913 N.E.2d 703, 705-709 (Ind. 2009), *cert. denied*, 130 S.Ct. 3409 (2010), the Indiana Supreme Court found no Confrontation Clause violation where the State did not present testimony from the DNA analyst who conducted the laboratory bench work on tissue from the victim's aborted fetus, but instead presented testimony from a technical reviewer regarding the DNA analysis and another expert who relied on the raw data to form an opinion regarding paternity of the aborted fetus. In *State v. Gomez*, 244 P.3d 1163, 1167-1168 (Ariz. 2009), the Arizona Supreme Court also held that a DNA expert's reliance on data generated by non-testifying DNA technicians in arriving at her opinion did not violate the Confrontation Clause. And, in *Commonwealth v. Barville*, 931 N.E.2d 457, 466-467 (Mass. 2010), the Massachusetts high court held that DNA expert opinion testimony based on hearsay does not offend the Sixth Amendment if the expert does not testify to the details of the hearsay on direct examination.

These cases illustrate the consensus among federal and state courts, a consensus in

line with the Illinois Supreme Court's holding that Lambatos's in-court testimony about her own opinion, albeit informed by reports and data generated by other analysts, neither implicated nor violated the Confrontation Clause. Petitioner nonetheless describes federal courts of appeals, state high courts, and state appellate courts as "split as to whether out-of-court statements presented to explain the basis of an expert witness's opinion constitutes hearsay, and thus triggers the defendant's rights under the Confrontation Clause." Pet. at 17. But the alleged split is illusory and fails to acknowledge a key distinguishing fact on which the outcomes of the cited cases turned — in every case that petitioner cites, and unlike this case, the testifying expert recited the testimonial hearsay statement of an out-of-court declarant at trial. *See United States v. Mejia*, 545 F.3d 179 (2d Cir. 2008); *Commonwealth v. Avila*, 912 N.E.2d 1014 (Mass. 2009); *New York v. Goldstein*, 843 N.E.2d 727 (N.Y. 2005), *cert. denied*, 547 U.S. 1159 (2006).

In petitioner's lone federal appellate decision, a police officer testified as an expert on a specific organized gang and opined on various aspects of the gang's structure and activities, including that the gang put a "tax" on narcotics sales in certain bars. *Mejia*, 545 F.3d at 186-187, 197-199. The "officer expert" learned about the drug tax from a gang member during a custodial interrogation. *Id.* at 187-188. The Second Circuit held that the officer's reliance on, and repetition of, the out-of-court statement about the drug tax violated Mejia's confrontation right and exceeded the scope of FRE 703. *Id.* at 197-199. In so holding, the Second Circuit noted that the officer did not apply his own expertise to reach his conclusion about the drug tax; rather, he merely repeated the statement of an out-of-court declarant. *Id.*

In *Avila*, also cited by petitioner, the Massachusetts high court held that a testifying medical examiner could not recite, on direct examination, the conclusions of an unavailable medical examiner contained in the autopsy report. 912 N.E.2d at 1027-1030. Finally, in *Goldstein*, New York's high court found that the admission of out-of-court statements made to a forensic psychiatrist retained by the prosecution violated *Crawford*. The psychiatrist interviewed several people and recounted the substance of their statements at trial when she gave her opinion regarding Goldstein's mental condition. *Goldstein*, 843 N.E.2d at 729-734.[6]

Rather than establishing a split, these cases fully support the Illinois Supreme Court's judgment. Indeed, testifying expert Lambatos did not recite the conclusions or statements of another DNA analyst or in any way act as a conduit for Cellmark's findings or results. Rather, she compiled, reviewed, and interpreted data and reports generated by DNA analysts at the ISP Crime Lab and Cellmark to conduct a comparative analysis of known DNA profiles to the male DNA profile identified in the vaginal swabs. Lambatos then drew her own conclusions about the data and presented her opinions to the court. *Avila* would allow such testimony, because the *Avila* court also found that the substitute medical examiner's own opinions and conclusions, though based on tests or procedures

---

[6] The two state appellate court cases cited by petitioner also involved experts who disclosed out-of-court statements during their testimony. Pet. at 18. In *People v. Dungo*, 98 Cal. Rptr. 3d 702, 708 (Ct. App.), *review granted*, 220 P.3d 240 (Cal. 2009), the testifying medical examiner disclosed portions of the autopsy report written by another pathologist when he explained the basis of his own opinions regarding the victim's death. In *People v. Dendel*, No. 247391, 2010 Mich. App. Lexis 1602, *31-37 (Mich. Ct. App. Aug. 24, 2010), *held in abeyance*, 2011 Mich. Lexis 410 (Feb. 4, 2011), the testifying medical examiner stated at trial that the victim died with a blood glucose level of zero, which relayed the results of tests performed by a non-testifying toxicologist.

performed by another, did not offend the Confrontation Clause as interpreted by this Court in *Crawford* and *Melendez-Diaz*. *See Avila*, 912 N.E.2d at 1028-1029; *accord, Commonwealth v. Nardi*, 893 N.E.2d 1221, 1229 (Mass. 2008); *Commonwealth v. Durand*, 931 N.E.2d 950, 957-962 (Mass. 2010).

Lambatos's testimony likewise would survive the reasoning set out in *Mejia*, because Lambatos applied her own expertise to reach her conclusions about the comparative match and did not convey the substance of another's statements to the trial court. *See Mejia*, 545 F.3d at 197-199; *see also United States v. Johnson*, 587 F.3d 625, 635-636 (4th Cir. 2009) (distinguishing *Mejia* from case where experts did not act as mere conduits for testimonial hearsay), *cert. denied sub nom., Martin v. United States*, 130 S.Ct 2128 (2010). In short, *Mejia*, *Avila*, and *Goldstein* do not conflict with the Illinois Supreme Court's judgment because, in each of those cases, out-of-court testimonial statements were relayed directly to the trier of fact by the testifying expert witness.

Notwithstanding the lack of any out-of-court testimonial statement admitted in this case, petitioner maintains that Lambatos's testimony about Cellmark was offered for the truth of the matter asserted and was, therefore, hearsay subject to Confrontation Clause protections. Pet. at 13. Pulling primarily from the academic works of Professors Richard D. Freidman and Jennifer L. Mnookin, petitioner submits that Lambatos's testimony about the basis of her opinion was necessarily offered for its truth because its probative value was dependent on the accuracy of Cellmark's test results. Pet. at 14. Putting aside that this argument does nothing to refute the absence of any split in authority implicated by this case, it also depends on a misunderstanding of the nature of Lambatos's testimony. In fact,

the probative value of Cellmark's analysis did not hinge on the accuracy of the test results, but was dependent only on a showing that the data Lambatos reviewed was actually derived from L.J.'s vaginal swabs. This was accomplished through testimony establishing relevance, foundation, and chain of custody for the evidence. The reliability of Lambatos's expert opinion, in turn, was tested via the procedure the Constitution prescribes, cross-examination, which challenged the reasonableness of Lambatos's reliance on data derived from forensic testing that she did not perform herself and her ability to synthesize the primary source material. *See Wilson*, 417 N.E.2d at 1326-1327, *citing United States v. Sims*, 514 F.2d 147, 149 (9th Cir. 1975).

In the traditional expert witness scenario, the expert testifies in court to her own opinion, which was developed from her own expertise, knowledge, and review of specific data relevant to the case as permitted by FRE 703 and its Illinois counterpart. *Wilson*, 417 N.E.2d at 1326-1327; *see also* Fed. R. Evid. 705 (adverse party may require expert to reveal facts or data underlying opinion). That is precisely what occurred here — Lambatos's testimony about the vaginal swabs explained the basis of her own opinion that petitioner could not be excluded as a DNA donor to the sample recovered from the victim's vagina. When Lambatos discussed the mixture in the vaginal swabs, she was not making a statement about the truth or reliability of the data reported from Cellmark, as petitioner suggests. Pet. at 13. Rather, she was making a statement about the propriety of drawing particular inferences from that data to form her opinion about the possible DNA contributors to the mixture. Such testimony was non-hearsay and, therefore, did not implicate *Crawford* and its progeny. *See Crawford* 541 U.S. at 59 n.9; *see also Street*, 471

U.S. at 414; *Turner*, 591 F.3d at 934.

The Illinois Supreme Court's finding that Lambatos's testimony about Cellmark did not constitute "hearsay" and, therefore, did not implicate *Crawford* is rooted in the text of *Crawford* and is in accord with federal appellate court and state high court opinions that have addressed the admission of expert testimony under FRE 703 and its state counterparts. No split of authority exists on this issue. This case, therefore, does not warrant certiorari review.

II. This Case Is A Poor Vehicle For Addressing The Question The Petition Presents Because Any Error In The Admission Of The Expert Testimony Was Harmless Beyond A Reasonable Doubt.

Even if error, the admission of Lambatos's testimony about Cellmark was harmless beyond a reasonable doubt. *See generally Schneble v. Florida*, 405 U.S. 427, 428 (1972) (erroneous admission of testimonial hearsay subject to harmless error review); *Harrington v. California*, 395 U.S. 250, 254 (1969) (same); *see also Melendez-Diaz* 129 S.Ct. at 2542 n.14, *citing Coy v. Iowa*, 487 U.S. 1012, 1021-1022 (1988). Harmlessness is determined by assessing: (1) whether the improperly admitted evidence was essentially corroborative of properly admitted evidence, and thus had little prejudicial impact; and (2) the independent evidence of guilt. *Schneble*, 405 U.S. at 430-431. Both considerations demonstrate that the admission of the testimony to which petitioner objects was harmless beyond a reasonable doubt, thus providing an alternative ground to sustain the trial court's finding of guilt regardless of this Court's answer to the question presented in the petition. *See* Pet. App. C26 (wherein concurring justices found any foundational error in admission of Lambatos's testimony harmless).

The DNA evidence was independent of the victim's credible identifications of petitioner from a line-up and at trial as the individual who attacked and sexually assaulted her. L.J.'s identifications of petitioner from the line-up and at trial were unequivocal. L.J. had ample opportunity to view petitioner while he repeatedly raped her in the backseat of his station wagon. The sexual assault was prolonged, and L.J. was face-to-face with petitioner when he vaginally raped her. In finding petitioner guilty, the trial court specifically found that the victim's testimony was credible and it, therefore,

provided an adequate basis for the trial court to convict petitioner. R. JJJ152-53.

Petitioner contends that the identification evidence was weak because the victim identified another man as her assailant on the night of the assault and did not identify petitioner until a year later. Pet. at 5, 17. Contrary to petitioner's suggestion, however, this was not a case involving a mistaken identification of another man. On the night of the offense, two Chicago Police officers stopped James McChristine, who was driving a beige station wagon, near the location where the assaulted occurred. R. III20, III29. McChristine agreed to accompany the officers to the hospital where L.J. was receiving treatment. R. III20. An officer took McChristine's driver's license into the hospital and showed it to L.J. R. III121. L.J. said that the photograph might depict her attacker but asked to view McChristine in person. R. III119. L.J. then viewed McChristine while he sat in a squad car in the hospital parking lot. *Id.* L.J. testified that she still was not sure whether McChristine was her attacker when she saw him in the squad car. R. III119-20.

Later that night, L.J. told a detective that, although she first thought McChristine's photo resembled her attacker, she had considerable doubts after viewing McChristine outside the hospital. R. III73. After L.J. was released from the hospital at 2:30 a.m., she viewed McChristine again at a police station. R. III75, III9. At that time, L.J. confirmed that McChristine was not her attacker, and McChristine was released. R. III75, III36-38. Notably, the trial judge specifically discussed McChristine when reflecting on the strength of L.J.'s identifications of petitioner and found that those events in no way undermined L.J.'s eventual identification of petitioner. R. JJJ149-54. Indeed, the judge commented that the situation with McChristine showed this was a case

"where the system actually worked." R. JJJ150.

Petitioner also submits that the claimed error was not harmless because DNA has a "'mystical aura' of infallibility" and tends to overwhelm other evidence. Pet. at 16. Such is not the case here, however. Petitioner was found guilty following a bench trial, where the trial judge specifically discussed the strength of the victim's identifications, and where the judge's comments about the DNA evidence demonstrate that he was not swayed by any perceived infallibility of DNA analysis or evidence.

In short, the evidence of petitioner's guilt was overwhelming, independent of the DNA testimony admitted at petitioner's bench trial. Because Lambatos's testimony did not violate the Confrontation Clause, and because any error in the admission of her testimony was nonetheless harmless, this case presents a poor vehicle for addressing the question presented in the petition, for even a ruling favorable to petitioner on that question would not affect the outcome in this case. The certiorari petition should be denied.

CONCLUSION

The petition for writ of certiorari should be denied.

Respectfully submitted,

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April 27, 2011

REPLY BRIEF

No. 10-8505

IN THE

SUPREME COURT OF THE UNITED STATES

October Term, 2011

SANDY WILLIAMS, Petitioner,

-vs-

PEOPLE OF THE STATE OF ILLINOIS, Respondent.

On Petition For Writ Of Certiorari

To The Supreme Court Of Illinois

REPLY BRIEF FOR PETITIONER

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REPLY BRIEF FOR PETITIONER

Respondent's brief in opposition argues that this Court's review is not warranted where Lambatos's testimony regarding the Cellmark's DNA analysis was not hearsay. However, Respondent's claim is based upon the false premise that Lambatos's opinion was independent of Cellmark's analysis and that her testimony did not convey any of the substance of Cellmark's analysis.

The DNA analysis that produced the male DNA profile from the semen recovered from the victim was conducted entirely by Cellmark. Lambatos took no part in the analysis, but instead merely compared Cellmark's results with the DNA profile deduced from a sample of Petitioner's blood. It was therefore critical for the trier of fact to believe Cellmark's assertions as being true in order for Lambatos's opinion regarding the DNA match to have any probative value.

Respondent's contention that Lambatos based her opinion on her own independent analysis of raw data produced by Cellmark's equipment rather than Cellmark's analysis of that data is incorrect. (Resp. Br. 5) We know this because Lambatos affirmatively testified that she did not review any of Cellmark's raw data when formulating her opinion:

> [DEFENSE COUNSEL]:You did not receive any computer data, the electronic data?
>
> [LAMBATOS]: I, myself, did not receive that but that was sent to the laboratory.
>
> Q: You never viewed that?

A: Oh, no, I did not.

(R. JJJ83) Rather, Lambatos testified that she received from Cellmark the DNA profiles Cellmark deduced from the victim's standard and from male genetic material Cellmark separated from two vaginal swabs taken from the victim (the E1 and E2 fractions), and an electropherogram[1] for only one of the deduced male profiles. (R. JJJ82–83.) While Respondent places great importance on Lambatos's review of that electropherogram in its claim that Lambatos's opinion was somehow independent from Cellmark's analysis (Resp. Br. 5), an electropherogram is not raw data. The raw data collected from a genetic analyzing device must first be processed and analyzed before an electropherogram can be produced. *See* John M. Butler, *Forensic DNA Typing* 335–37 (2d ed. 2005). Thus, the electropherogram reviewed by Lambatos was the product of Cellmark's interpretation of the raw data, not the raw data itself. Everything Lambatos's relied upon regarding the male DNA profile was the product of Cellmark's subjective analysis.

Contrary to Respondent's assertion, Lambatos's opinion was entirely dependant on the accuracy of Cellmark's work and Lambatos did convey the substance of Cellmark's analysis to the trier of fact. (Resp. Br. 16.) Lambatos clearly testified that it was the DNA profile provided to her by Cellmark, not a profile she herself deduced from any raw data, that she relied upon in making her opinion.

---

[1] An electropherogram is a graphical representation of the genetic markers detected in a DNA sample.

Lambatos testified, "Well, after Celmark *[sic]* made their deduced male donor profile, that was put into the data base *[sic]* and then it was generated, the match was generated." (R. JJJ91.) Furthermore, as the Illinois Supreme Court in its decision and Respondent in its brief note, Lambatos also testified regarding the specific genetic markers contained in the deduced male profile as reported by Cellmark. *People v. Williams*, 238 Ill. 2d 125, 145–46, 939 N.E.2d 268, 279 (2010); (Resp. Br. 5); (R. JJJ83–95.) Lambatos had no personal knowledge of the DNA analysis conducted on the samples taken from the victim and had no personal knowledge of any DNA profile being deduced from the sample. Thus, by testifying that a male DNA profile was deduced from the semen recovered from the victim, Lambatos conveyed to the trier of fact the substance of statements contained in Cellmark's report. Further, because Lambatos's opinion regarding the DNA match was based upon Cellmark's analysis, the trier of fact necessarily had to assess the truth of Cellmark's analysis in order to evaluate Lambatos's opinion. The Illinois Supreme Court's conclusion that Lambatos's testimony regarding Cellmark's analysis was not offered for its truth was therefore erroneous.

Accordingly, Respondent's claim that the Illinois Supreme Court's decision does not conflict with other federal and state court decisions is mistaken. (Resp. Br. 10–15.) For example, contrary to Respondent's contention, the Illinois Supreme Court's holding—that an expert's testimony regarding the analysis conducted by non-testifying analysts does not violate a defendant's confrontation rights—conflicts with the holdings in *United States v. Mejia*, 545 F.3d 179 (2d Cir. 2008) (gang

expert could not transmit testimonial statements directly to jury), *Commonwealth v. Avila*, 912 N.E.2d 1014 (Mass. 2009) (medical examiner could not testify to the underlying factual findings of non-testifying examiner who performed autopsy), and *New York v. Goldstein*, 843 N.E.2d 727 (N.Y. 2005) (out-of-court statements of laypersons regarding the defendant's behavior relied upon by the prosecution's psychiatric expert constituted inadmissible testimonial hearsay under *Crawford* because the trier of fact had to accept the statements as true in order to evaluate the expert's testimony), *cert. denied*, 547 U.S. 1159 (2006).

In sum, the Illinois Supreme Court's decision that an expert witness may present the DNA test results of non-testifying analysts to explain the basis of her opinion is both illogical and inconsistent with this Court's holdings in *Crawford v. Washington*, 541 U.S. 36 (2004), and *Melendez-Diaz v. Massachusetts*, 129 S.Ct. 2527 (2009). Respondent's argument that there is no conflict with this Court's precedent is based on a mistaken representation of Lambatos's testimony at trial. This Court should therefore grant *certiorari* and reverse the Illinois Supreme Court's erroneous decision.

CONCLUSION

For the foregoing reasons, petitioner, Sandy Williams, respectfully prays that a writ of certiorari issue to review the judgment of the Illinois Supreme Court.

Respectfully submitted,

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JOINT APPENDIX

No. 10-8505

In The Supreme Court of the United States

SANDY WILLIAMS,

Petitioner,

v.

PEOPLE OF THE STATE OF ILLINOIS,

Respondent.

On Writ Of Certiorari To The Supreme Court Of Illinois

JOINT APPENDIX

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May 1, 2001	Indictment filed in the Circuit Court of Cook County charging Sandy Williams with 12 counts of aggravated criminal sexual assault, four counts of aggravated kidnapping, and one count of aggravated robbery.
April 24, 2006	Bench trial commenced on two counts of aggravated criminal sexual assault, one count of aggravated kidnapping, and one count of aggravated robbery.
April 25, 2006	Bench trial continued.
April 26, 2006	Bench trial continued. Finding of guilt on all counts.
August 18, 2006	Motion for new trial denied. Williams sentenced to two terms of natural life on two counts of aggravated criminal sexual assault, 60 years on one count of aggravated kidnapping, and 15 years on one count of aggravated robbery.
September 12, 2006	Notice of appeal filed.

Docket Entries for *People v. Sandy Williams*, Appellate Court of Illinois, First District, No. 1-06-3463

August 27, 2008	Opinion of the Appellate Court of Illinois, affirming Williams's convictions and modifying his sentence, Cunningham, J., dissenting.
October 14, 2008	Order of the Appellate Court of Illinois denying rehearing.

Docket Entries for *People v. Sandy Williams*, Supreme Court of Illinois, No. 107550

January 28, 2009	Petition for leave to appeal to the Supreme Court of Illinois allowed.
July 15, 2010	Opinion of the Supreme Court of Illinois, affirming in regard to convictions and reversing in regard to sentence, Freeman, J., specially concurring, Burke, J., concurring in part, dissenting in part.
September 12, 2010	Order of the Supreme Court of Illinois denying rehearing.

STATE OF ILLINOIS)
) SS:
COUNTY OF COOK)

IN THE CIRCUIT COURT OF
COOK COUNTY, ILLINOIS

PEOPLE OF THE STATE OF ILLINOIS, Plaintiff,	)	NO. 01CR10786
v.	)	
SANDY WILLIAMS, Defendant.	)	

(Filed Aug. 14, 2007)

REPORT OF PROCEEDINGS had at the hearing of the above-entitled cause, before the Honorable KENNETH WADAS, Judge of said court, on the 26th day of April, A.D. 2006.

PRESENT: HON. RICHARD A. DEVINE,
State's Attorney of Cook County, by
MR. ARUNAS BUNTINAS and
MS. ANGELA PETRONE,
Assistant State's Attorneys,
on behalf of the People;

Ms. Karen Moser, C.S.R.
Official Court Reporter #084-004106
Circuit Court of Cook County

[JJJ 2] MR. EDWIN A. BURNETTE,
Public Defender of Cook County, by
MS. SOPHIA ATCHERSON and
MR. BRIAN WALSH,
Assistant Public Defenders,
on behalf of the Defendant.

* * *

[JJJ 18] KAREN ABBINANTI,

called herein as a witness on behalf of the People of the State of Illinois, having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY

MS. PETRONE:

Q Can you please state your name and spell your last name.

A Karen A-b-b-i-n-a-n-t-i.

Q Is Abbinanti your married name?

A Yes.

Q What was your maiden name?

A Kooi, K-o-o-i.

Q By whom are you currently employed?

A By the Illinois State Police Forensic Science Center at Chicago.

Q Where is that located?

A It's located at 1941 West Roosevelt Road in Chicago.

Q How long have you worked for the Illinois state police in Chicago?

A Since August of 1996.

Q What is your title?

[JJJ 19] A I'm a forensic scientist in the biology section.

Q What are your duties?

A I perform analysis on evidence from criminal investigations looking for the presence of bodily fluids and conducting DNA analysis.

Q What type of bodily fluids do you look for?

A Typically we will look for blood, semen, saliva.

Q What type of DNA analysis do you perform?

A I perform STR, PCR type of analysis.

Q Do you then write reports and testify in court as needed?

A I do.

Q Can you tell us about your educational background?

A I have a Bachelor's of Science degree from the University of Illinois.

Q What was your major?

A Biology.

Q Have you had any specialized training in the field of forensic biology and forensic DNA, STR analysis?

A Yes, I have. I received that training [JJJ 20] through the Illinois state police. I went through two separate programs; one for forensic biology; one for forensic DNA and both encompassed written, oral, practical examinations and supervised case work.

Q Were you the quality review coordinator at the Illinois State's police crime lab in forensic DNA, STR analysis?

A Yes, I was.

Q When did you hold this position?

A I believe I held it in 2001, 2002, and 2004.

Q What were your duties in this capacity?

A I would look at cases from other laboratories within the state of Illinois under our system. I would review other analyst's work in DNA and perform random re-analysis on their cases.

Q Have you taught in your field?

A Yes, I was a facilitator for the Illinois state police forensic DNA, STR analysis group.

Q What does that mean?

A I would help facilitate training of new analysts to the DNA section.

Q Is your work at the Illinois state police crime lab in forensic biology and in the area of forensic DNA analysis subject to peer or supervisory [JJJ 21] review?

A Yes.

Q Can you tell us about that?

A First off all files that I generate, they go through a peer review where a fellow analyst would check my work and then a portion of that would be reviewed by a supervisor.

Q Was your work in this case reviewed?

A Yes, it was.

Q Are proficiency tests administered at the Illinois state police crime lab in the areas of forensic biology and forensic DNA analysis?

A Yes.

Q Can you explain that?

A Yes. As a DNA analyst and a biologist, I received three DNA proficiency tests a year, two external, one internal; and then two biology proficiency tests a year, one internal, one external.

Q Do you belong to any professional organizations?

A Yes. I'm a member of the American Academy of Forensic Science.

Q Can you tell us the approximate number of samples you've analyzed for the presence of bodily [JJJ 22] fluids?

A At least 2000.

Q Can you tell us the approximate number of samples you performed DNA analysis on?

A Also at least a couple thousand.

Q Have you previously testified in a court of law as an expert in forensic biology?

A Yes.

Q Have you previously testified in a court of law as an expert in forensic DNA analysis?

A I have.

MS. PETRONE: Judge, at this time I would tender this witness as an expert in both forensic biology and forensic DNA analysis.

MR. WALSH: No questions, no objection.

THE COURT: The witness is an expert in forensic biology, forensic DNA analysis. Go ahead.

FURTHER DIRECT EXAMINATION

BY

MS. PETRONE:

Q Is the Illinois State police forensic science center in Chicago accredited?

A It is.

Q By whom?

[JJJ 23] A Since 1997 it's been accredited by ASCLD lab.

Q What does does ASCLD lab, what does that stand for?

A It stands for the American Society of Crime Laboratory Directors Laboratory Accreditation Board.

Q Does your lab follow any nationally known guidelines?

A Yes, we do.

Q What are those?

A They're called DAB or DNA advisory board guidelines.

Q What is the purpose of DNA advisory board?

A This group sets forth standards for DNA analysis nationwide.

Q Is clean technique used at the Illinois State police crime lab in Chicago?

A Yes.

Q What is clean technique?

A Clean technique is what we do when we analyze evidence where we wear lab coats, protective equipment, masks, gloves. When we look at evidence, we clean our area with a ten percent bleach solution. We look at each piece of evidence one at a time, clean our tools with bleach in between each sample.

[JJJ 24] Q Are controls run in DNA analysis?

A Yes, they are.

Q Can you briefly explain that?

A Sure. When we extract a sample, we also extract what's called a manipulation blank which is a clean piece of cotton and it's processed last to show that, you know, the re-agents are not contaminated, or we didn't introduce any foreign DNA into the samples. We also run a positive and negative control during a part of our DNA analysis to show that, you know, the tests do work.

Q What do the letters DNA stand for?

A DNA stands for deoxyribonucleic acid.

Q Is that spelled d-e-o-x-y-r-i-b-o-n-u-c-l-e-i-c acid, a-c-i-d?

A It is.

Q What is DNA?

A DNA is basically a genetic blue print. It's found in all living things.

Q Where does DNA come from?

A You receive half your DNA from your mom and half from your dad.

Q Is DNA different from person to person?

A It is with the exception of identical [JJJ 25] siblings.

Q Is DNA the same throughout a person's body?

A It is.

Q Does our DNA change as we become older?

A No, it does not.

Q Can one person's DNA be changed into another person's DNA?

A No.

Q What are some examples of biological fluids where DNA maybe found?

A Some examples include blood, semen, saliva, bone, and hair roots.

Q What are some examples of DNA use?

A DNA is also used, PCR STR analysis also used in biomedical research for cancer, it's used in identifying unknown people in natural disasters. It's also used basically today service men and women are

required to give up DNA samples so that there would be no more unknown soldiers.

Q Is DNA also used in paternity testing?

A Yes, also paternity.

Q And it is used to identify the war deaths?

A That's correct.

Q What is forensic DNA analysis?

[JJJ 26] A The purpose of forensic DNA analysis is to generate a DNA profile from an unknown stain and to basically compare it to the DNA profiles from individuals potentially involved with the crime.

Q Is DNA testing to exclude as well as include a person as being a contributor to a sample?

A Right.

Q What do the letters STR stand for?

A STR stands for short tandem repeat.

Q Is this the type of DNA analysis that you perform?

A It is.

Q Is this type of DNA analysis generally accepted in the scientific community?

A It is.

Q Is this one of the most modern types of DNA analysis done?

A Yes, it is.

Q Can you briefly explain how STR analysis works?

A Yes. There are locations along the DNA that we look at that differ from person to person. These are STRs, and basically we inherit a different STR from each parent and so basically when I look at a location, I may [JJJ 27] inherit like a 12, 14 while you at that same location may inherit a 9, 10 so I basically look at up to 14 locations of the DNA to generate a DNA profile to do a comparison.

Q Is this also a profile for gender?

A Yes. There's also a location that identifies gender.

Q Directing your attention to the date of August 24th of 2000 to the Illinois State police forensic science center in Chicago receive evidence under inventory number 2391661?

A If I could refer to my notes.

THE COURT: Any objection?

MR. WALSH: No, Judge.

THE COURT: You can refer to your notes.

THE WITNESS: Thank you. Inventory 2391661.

MS. PETRONE: Q Was this marked as being a blood standard taken from Sandy Williams?

A Yes, it was.

Q From whom was this evidence received?

A It was received from the Chicago police department.

Q And what condition was it received?

A It was received in a sealed manilla envelope.

[JJJ 28] Q What did you do with this evidence after you received it?

A I went ahead and opened the envelope and observed a stain card which had blood stains on it from a Sandy Williams. I went ahead and cut a portion for DNA analysis.

Q Did this analysis include extracting a male DNA profile?

A It did.

Q Did you use the DNA methods of analysis which you just described to extract that profile?

A I did.

Q Was the male DNA profile consistent with having originated from Sandy Williams put into a data base at the Illinois State police crime lab?

A Yes, it was.

Q Is that data base used to compare DNA profiles to samples from unsolved cases?

A It is.

Q Did you record your findings in a lab report that is assessable by other analysts?

A Yes, I did.

MS. PETRONE: No further questions.

THE COURT: Cross?

[JJJ 29] CROSS-EXAMINATION

BY

MR. WALSH:

Q Now, you testified that you performed analysis on a blood stain, correct?

A That's correct.

Q That was the only analysis you did in this case?

A It was part –

Q With regard to the – strike that. Again, your testimony was with regard to a blood standard use of testing?

A That's correct.

Q And that was done in November of 2000?

A I started the DNA analysis of the blood standard from Sandy Williams on September 6, 2000.

Q And it was completed later on?

A Yes.

Q With regard to case number C007770, you did not perform any testing with regard to any vaginal swabs, correct?

A That's correct.

Q Or any rectal swabs?

A That's correct.

[JJJ 30] Q With regard to the testing and procedures that you do, you mentioned the clean technique, correct?

A Right.

Q And the purpose of that is to avoid contamination?

A That's correct.

Q Forms of contamination would be incidental contamination, say if a person were to place their own DNA onto a sample?

A Right.

Q Like sneezing or dropping or depositing sweat or any other type of bodily fluid onto a sample?

A Yes, that's one way.

Q Could also be cross contamination between samples; is that correct?

A That's correct.

Q And purposes of clean technique are to avoid those types of contamination, right?

A Exactly.

Q And you ran controls here with regard to the blood sample you ran?

A That's right.

Q And you do that for all the analysis you perform?

[JJJ 31] A Right.

Q That's required by the – under your protocols?

A Right, standard operating procedures.

Q You also check calibration of the equipment that you use?

A Right. It is maintained and calibrated when needed.

Q And you checked that prior to running samples, correct?

A Could you be more specific.

Q Well, with regard to the DNA analysis on the blood standard that you testified to from Sandy Williams, you checked the calibration on the CE instrument for DNA analysis?

A Right.

Q And then you also performed other manipulations to that sample prior to running it, correct? You have to extract the sample from the filter?

A Right, exactly.

Q Now, the testing you performed uses a very small sample, correct?

A That's correct.

[JJJ 32] Q From the filter card you received had four separate areas of apparent blood?

A On the filter card there was about quarter sized 4 blood stains on that card.

Q Quarter size?

A About.

Q And with regards to DNA testing, that's a huge amount?

A That is.

Q For the testing performed you needed just a minute amount from one of those quarter sized circles, correct?

A Right. I believe I cut out only about an eighth of one circle.

Q And you processed that separately with hopes to avoid contamination and any other DNA from that blood card, correct?

A I don't quite understand that.

Q Well, we are talking about forms of contamination or cross contamination. One would be flaked off blood from a blood card which could be left on a lab bench or transferred to other items of evidence; is that correct?

A You are talking from another case?

[JJJ 33] Q Yes.

A Oh, yes, but the area, you know, using clean technique, we would bleach the areas used and butcher paper to process a new case.

Q But that is possible and that is a form of contamination?

A It could be.

Q Now, you handled the blood card yourself from the process of extracting genetic material from the card through the process of analysis, correct?

A That's correct.

Q Now, is it fair to say that the more often a sample is handled or manipulated, the greater the risk of contamination?

A I wouldn't say that because everyone in the lab also follows clean technique wears gloves, things of that nature.

Q Well, every time a sample's opened up there's a chance of contamination, correct?

MS. PETRONE: Objection to the form of that question.

THE COURT: If she understands it, she can answer it. Overruled.

THE WITNESS: Again, we would always use clean [JJJ 34] technique to minimize that.

MR. WALSH: Q To minimize it but that chance is still there?

A It maybe very slight but it is possible.

Q And the more times that occurs, the more that, albeit small chance, the greater that chance would be? Is that a fair statement?

A It maybe possible, but we do work in a clean environment.

Q Now, you said that DNA it is permanent to the individual, correct?

A Right.

Q And you said it cannot be changed?

A Right.

Q However, samples can degrade?

A That's true.

Q And that would be a change to potentially how much of a profile can be obtained?

A Right. You may observe more of a partial profile than a full profile.

Q And a sample can be degraded by – over time, right?

A Right.

Q Heat?

[JJJ 35] A Correct.

Q Moisture?

A Right.

Q Washing?

A Right.

Q Any other factors?

A UV sunlight could degrade the DNA.

Q With regard to the comparison process, there are 13 locations plus an additional location for gender that are examined, correct?

A That's correct.

Q And each is designated – well each of the 13 is designated by two numbers?

A Correct.

Q And as far as how you report your testing analysis, and one number is inherited from your mom, one number's inherited from your father?

A That's right.

Q And that's how you report out the test results?

A Right. That consists the DNA profile.

Q There are also some rare instances where a person could have three numbers at a location; is that correct?

[JJJ 36] A That's correct.

Q And for a comparison, you look at each of those locations and you compare those two numbers from an evidence sample to the two numbers at that location for a reference standard?

A That's right.

Q And if those two numbers are the same, you call that – you say they're consistent or a match, right?

A Right.

Q If one of those numbers is not the same, that's an exclusion, correct?

A Correct, if you are talking about a single source profile.

Q And across the 13 locations, if any one of those numbers does not match, there will be an exclusion, correct?

A Right, right.

Q You did not perform any case comparisons in case number C007770, the victim indicated Latonya Jackson.

MR. BUNTINAS: Objection, asked and answered. She said, no, she didn't perform any test on that known case number.

[JJJ 37] THE COURT: Sustained.

MR. WALSH: Q You simply ran the profile for Sandy Williams?

A That's correct.

Q Just briefly with regard to the profile you generated from the blood stain from Sandy Williams, let me just run through this quickly. There are 13 locations, correct?

A Right, including one for gender.

Q Those locations have different designations?

A Right.

Q First one would be D3?

A Yes.

Q His profile was a 16, 19?

A Let me go to that page.

Q Page 54?

A Right. A D3, he's a 16, 19.

Q DWA is a 17, 17?

A Correct.

Q And people can share the same number, have the same number from their mom and dad?

A Right. You can inherit a 17 from your mom, 17 from your dad.

Q FGA is 18.2 and a 22?

[JJJ 38] A Yes.

Q The gender location indicates male an X and a Y?

A Correct.

Q D8 is a 14, 14?

A Yes.

Q D21 is 29, 30?

A Yes.

Q D18 is 13, 17?

A Correct.

Q D5 is 12, 13?

A Correct.

Q D13 is 11, 11?

A Correct.

Q D7 is 10, 12?

A Yes.

Q The D16 location is a 9, 11?

A Yes.

Q The THO1 is a 7,7?

A Correct.

Q The location T-POX, T-POX is 11, 11,?

A Correct.

Q The location CSF is 8, 10?

A Yes.

[JJJ 39] Q And the D7 – we already did D7, correct?

A Correct.

MR. WALSH: Thank you, nothing further.

THE COURT: Redirect?

REDIRECT EXAMINATION

BY

MS. PETRONE:

Q Ms. Abbinanti, you did not sneeze on the work that you were doing, did you?

A No, I did not.

Q Did you drop your sweat into the work?

A No.

Q Did you drop any of your bodily fluids?

A No, we wear protective equipment which consists of a mask, lab coat, sneeze guards, disposable sleeve guards, gloves so that we are protecting the evidence from myself.

MS. PETRONE: Nothing further.

THE COURT: Re-cross.

MR. WALSH: No questions.

THE COURT: You can step down, ma'am, thank you. Please raise your right hand to be sworn in by the clerk.

(Witness sworn)

[JJJ 40] BRIAN HAPACK,

called herein as a witness on behalf of the People of the State of Illinois, having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY

MS. PETRONE:

Q Can you please state your name and spell your last name.

A Brian H-a-p-a-c-k.

Q What is your occupation?

A I'm a forensic biologist.

Q Where are you currently employed?

A I work for the Illinois state police metro east lab in Fairview Heights.

Q What are your duties at the metro east lab?

A I analyze items of evidence for the presence of biological stains and attempt to identify those stains.

Q What types of biological stains do you analyze evidence for?

A That would be blood, semen, urine, saliva, feces, vaginal secretions.

Q How long have you worked at the metro east [JJJ 41] crime lab?

A Four years.

Q Where were you previously employed?

A At the Illinois State police forensic science center in Chicago.

Q Is that the lab at 1941 West Roosevelt?

A Yes.

Q What was your position there?

A I was a forensic biologist.

Q What were your duties in that capacity?

A They were the same duties.

Q How long did you work at the Illinois state police crime lab in Chicago?

A I was there for three years.

Q Can you tell us about your educational background?

A Yes. I have an Associates Degree from Lincoln Community college. I have a bachelor's in biology and chemistry from Illinois college. I'm also a graduate of Saint John's hospital school of clinical laboratory science.

Q Is your Associate's degree also in biology?

A Yes.

Q Have you had any specialized training in your [JJJ 42] field?

A Yes. I completed a training program with the Illinois state police at their Carbondale lab in the area of forensic biology.

Q What did that program consist of?

A It consisted of six months of training involving tests, both written and laboratory practical exams, followed by six month period of supervised case work.

Q Have you lectured in your field?

A I gave a presentation at a mass meeting in Chicago several years ago.

Q Is your work in forensic biology at the state lab subject to peer supervisor review?

A Yes.

Q Did that include your work in this case?

A Yes.

Q Were proficiency tests administered to you in your field at the Illinois state police crime lab?

A Yes, they are.

Q Can you tell us about those tests?

A Yes. Each year we perform an internal proficiency test as well as an external proficiency test – simply a set of samples that we don't know what they [JJJ 43] are, and we have to try to identify them.

Q Have you successfully completed these tests?

A Yes.

Q Do you have any experience related to your work in forensic biology at the Illinois state police crime lab?

A Yes. I worked at the DNA indexing section in the Springfield laboratory as a researcher.

Q Do you belong to any professional organizations?

A Yes, the Midwestern Association Of Forensic scientists.

Q Can You tell us the approximate number of samples you've analyzed for the presence of biological fluids?

A Many thousands.

Q Have you previously testified in a court of law as an expert in forensic biology?

A Yes.

MS. PETRONE: At this time I would tender this witness as an expert in forensic biology.

THE COURT: Cross?

MR. WALSH: No questions.

THE COURT: The witness is an expert in forensic [JJJ 44] biology.

MS. PETRONE: Q Directing your attention to the date of February 15th of 2000 to the Illinois state police Forensic Science Center in Chicago receive evidence under RD number F083574 inventory 2276053?

A Yes.

Q What was that evidence?

A It was a sexual assault collection kit from Latonya Jackson.

Q Was that also recorded in the Illinois state police crime lab under lab case number C00007770?

A Yes.

Q From whom was this evidence received?

A From the Chicago police department.

Q For what purpose was it received?

A To analyze the contents for the presence of semen.

Q And what condition was the evidence when received?

A It was in a sealed condition.

Q What did you do with the sexual assault evidence collection kit when you received it?

A I took it to my laboratory examination area where I opened the kit up and then performed, [JJJ 45] inventoried the contents and then performed semen testing on it.

Q Was there a separate sealed envelope inside the kit marked as the vaginal swabs from Latonya Jackson?

A Yes.

Q What did you do with this evidence?

A I opened the vaginal swabs and performed two tests for semen on it.

Q Can you tell us what types of tests for semen you did?

A The first test I performed was the acid phosphastase.

Q Acid phosphastase?

A Yes.

Q Can you describe that test, please.

A Yes. Acid Phosphastase is an enzyme that's present in semen in high concentration and in much lower concentrations than in other body fluids. It gives an indication of whether semen is present in the stain. It's performed by taking and cutting of the suspected stain, adding one drop of two different reagents and in observing if there is a color change to a purple color change. That color change is then graded from plus one [JJJ 46] to plus four based on the intensity of that color with a plus four being the strongest reaction and the strongest indicator of semen.

Q Was the result in this case from your performing the acid phosphastase test?

A Yes the result was a four plus positive.

Q Is that the highest indication of semen?

A Yes.

Q Did you perform another test for the presence of semen?

A Yes, I did perform a test called the Abacard test.

Q Is that spelled A-b-a-c-a-r-d?

A Yes.

Q Can you please explain that?

A Abacard tests for protein called P30. P30 is produced in the prostate and is present in semen in high concentration and absent and detectable levels in other body fluids. The test works basically by using a protein that reacts specifically with P30. It's very similar to the way an over-the-counter pregnancy test would work. You would take – extract a suspected stain, add that to a test card, allow it to react for ten minutes and then observe if you see two pink lines, [JJJ 47] that's a positive result; one pink line would be a negative result.

Q What was the result of the testing in this case?

A They were two pink lines. It was a positive result.

Q Did you use any safe cards to ensure the quality of your work?

A Yes, we practice what is called clean technique. This involves using a ten percent bleach solution to clean the counter top area where we perform our examinations. We have rolls of clean butcher paper that we place down to put the evidence on. We also keep on hand a ten percent bleach solution in a beaker to cleanse our tools as we perform the examinations. All of this is done while wearing disposable gloves, sleeve covers, and a lab coat and a face mask as well.

Q Is this type of analysis generally accepted in the scientific community?

A Yes.

Q What did you do after you found the presence of semen in the vaginal swabs?

A I took the swabs and placed them into a coin envelope, sealed them with evidence tape, gave them the [JJJ 48] some exhibit designation 1B1 and then placed them in a secure freezer until a later date when DNA analysis could be conducted.

Q Is this freezer secure and at the Illinois state police crime lab?

A Yes, it is.

Q Who has access to it?

A The forensic scientists and supervisors working in the biology section of the forensic science center in Chicago.

Q In addition to the evidence being put in an envelope, which was sealed in the freezer, was that envelope also labeled as to the information regarding this case?

A Yes, it was; the case number was and the exhibit number was placed on it, yes.

Q Included in the sexual assault evidence collection kit, was there also a separate sealed

envelope marked as being a blood standard of Latonya Jackson?

A Yes, there was.

Q What, if anything, did you do with this?

A I took the stain card and placed it into a coin envelope and sealed with evidence tape and placed [JJJ 49] that also in a secured freezer. I gave it the sub exhibit designation of 1A1, and it remained in the freezer until a later date when DNA could be conducted.

Q What was the point of doing this?

A To preserve the evidence.

Q Is this type of preservation of a blood standard generally accepted in the scientific community?

A Yes.

Q In addition to this envelope being sealed, was it labeled with information, identified information, about this case?

A Yes, it was.

Q And was that kept in the same secured storage area at the Illinois state police crime lab that you just referred to?

A Yes.

Q Do you then prepare reports of your findings so that these reports are assessable by other analysts?

A Yes.

MS. PETRONE: May I approach?

THE COURT: Yes.

MS. PETRONE: Q Showing you what's been previously marked as People's Exhibit Number One for identification and ask if you recognize that?

[JJJ 50] A Yes, I do.

Q How do you recognize that?

A By my marks.

Q And what type of markings do you have on there?

A A date and my initials.

Q Is that the sexual assault evidence collection kit that you were referring to?

A Yes.

Q And can you please look inside and see if the separate sealed envelope regarding the blood standards from Latonya Jackson and the vaginal spots from Latonya Jackson are located inside that kit?

A Yes.

Q And showing you for the record what's been marked as People's Exhibit Number One A for identification. Do you recognize that?

A Yes.

Q What is that?

A This is the envelope containing the vaginal swabs from Latonya Jackson.

Q Showing you People's Exhibit Number One B for identification. Do you recognize that?

A Yes.

[JJJ 51] Q What's that?

A This is the blood standard from Latonya Jackson.

Q When you received this evidence, were People's Exhibit Number One A and One B separately sealed inside of this sexual assault kit?

A Yes.

Q And was the sexual assault kit itself sealed?

A Yes, it was.

Q Except for the fact that this kit has been opened today, does it appear to be in the same or substantially the same condition as when you received?

A Yes.

MS. PETRONE: No further questions.

THE COURT: Cross?

CROSS-EXAMINATION

BY

MR. WALSH:

Q With regard to Exhibit One, the sex assault kit you identified, you indicated you had placed markings on the box?

A Yes.

Q There were also other markings on there?

A Yes.

[JJJ 52] Q After you had seen this box?

A Excuse me?

Q There have been other markings subsequent to after the time you processed this, correct?

A If I could see it again. Yes.

Q And you have no knowledge as to who or when it had been processed as after you had handled it?

A After I handled it, I placed it in the vault to be returned.

Q You examined a blood standard card and processed that?

A I didn't perform any examinations. I simply repackaged it and placed it into the freezer.

Q And some vaginal swabs, right?

A Correct.

Q There were no rectal swabs, correct?

A No, there were none.

Q And with regards to the vaginal swabs, the first test you performed the AP test. That is a presumptive test for the presence of semen, correct?

A Correct.

Q It is not confirmatory?

A Correct.

Q And there are other things will indicate a [JJJ 53] positive reaction, correct?

A There are other things that will react with the test, yes.

Q Including vaginal fluids, correct?

A Correct.

Q You testified that you performed a Abacard test?

A Yes.

Q And you got a positive report?

A Correct.

Q Now, that was – running that test allows it to change color after ten minutes, right?

A That's correct.

Q Do you run a control with that card?

A There's a built in control into each test.

Q Both a positive and negative control?

A Well, the control is – the way the test is set up is there's a – if you imagine a card, there's a sample area and then there's a window area where you can read the test. In this area, in the sample area, is an anti-human P30 anti-body with a pink die card attached to it. As you add the sample, that migrates down the membrane and at the opposite end, there is bonded to that membrane and anti-anti-body which basically will [JJJ 54] react and form a pink line to let you know that, yes, the re-agent was added to the tube and migrated properly down the length of the test strip.

Q So it actually has a positive control?

A Yes.

Q There's also a third test for sperm identification, correct?

A Yes.

Q And that would be a staining and microscopic examination, correct?

A That's correct.

Q You did not perform that test here?

A No, I did not.

Q With regard to – now, backing up back to the AP test. You also ran controls there, right?

A Yes.

Q Both the positive control?

A Yes.

Q And a negative control?

A That's correct.

Q And a negative control, what's the purpose of the negative control?

A To demonstrate a negative reaction.

Q And also show that the lack of any [JJJ 55] contamination or any other contaminants there are?

A Correct.

Q With regard to each of those tests, you checked the re-agents you used?

A Well, yes, I performed a positive and negative control to ensure that the test was working properly.

Q And you checked to see that you have followed proper procedure, correct?

A Yes.

Q And you used equipment, right?

A Yes, clean technique is always used.

Q You processed these samples one at a time?

A Yes, well, they're both in the kits, and the kit is present there during the examination, but you would only have one sample out working on it at a time.

Q And it would be against policy and as well as your practice to process samples and batches, correct?

A You would have to – batch work, that's a broad term. Basically, you would not – you would only have one exhibit out working on it at one time and then before you went to work on another exhibit, you would have to put that away.

* * *

[JJJ 56] SANDRA LAMBATOS,

called herein as a witness on behalf of the People of the State of Illinois, having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY

MS. PETRONE:

Q Can you please state your name and spell your last name?

A Sandra L-a-m-b-a-t-o-s.

Q What is your current occupation?

A I am a stay-at-home mom.

Q How long have you been a stay-at-home mom?

A About a year.

Q What did you do previously?

A I worked at Independent Forensics of Illinois as a paternity DNA analyst.

Q What were your duties in that capacity?

A To examine swabs for DNA profiles and to do [JJJ 57] paternity tests.

Q How long did you do that work?

A About a year and a half.

Q Where did you work before that?

A At the Illinois state police crime laboratory.

Q Is that the laboratory located in Chicago in 1941 West Roosevelt?

A Yes, it is.

Q How long did you work at the Illinois State police crime lab in Chicago?

A About eight and a half years.

Q What was your position there?

A I was a forensic scientist 3.

Q Were you also an acting supervisor in the biology section?

A Yes, I was.

Q What were your duties as a forensic scientist 3?

A My duties included examining evidence for the presence of bodily fluids such as blood, semen, and saliva and then I would conduct a DNA comparison on this evidence as requested to do so.

Q What were your duties as an acting supervisor [JJJ 57] in the biology section?

A To supervise the daily activities of the biologist in that section and to perform supervisory review on the lab work.

Q Can you tell us about your educational background?

A I have a bachelor's science degree from University of Illinois at Urbana Champaign.

Q What was your major?

A Biology.

Q Do you have any specialized training in your field?

A Yes, I do from the Illinois state police crime laboratory I received about three years of training in the forensic biology and DNA field.

Q Can you describe the training you received in the area of forensic biology?

A Yes. That training was about a year and a half – about a year and that included learning about the identification of blood, semen, and saliva. We had written, oral, and practical examinations as well as supervised case work.

Q Can you tell us about the specialized training you received in the area of DNA?

[JJJ 59] A Yes. That training lasted about two years and that included learning about DNA in the form of lectures, written materials, supervised case work, written, oral, and practical laboratory exams.

Q Did you successfully complete these three years of training?

A Yes, I did.

Q Have you attended any seminars from other laboratories in the area of DNA analysis?

A Yes, I did. Seminars was [sic] presented by Bodi technology and the Midwestern Association of Forensic scientists.

Q Did you – have you conducted lectures of presentations in DNA technology?

A Yes, I did. I gave lectures at Kent Law school at the Museum of Science and Industry, at the Chicago police department new detective training, and also for the Cook County State's attorney's office.

Q Was your work at the Illinois state police crime lab subject to peer or supervisory review?

A Yes, it was.

Q Would that include your work in this case?

A Yes, it did.

Q Were you given proficiency tests in your [JJJ 60] field at the Illinois state police crime lab?

A Yes.

Q Can you tell us about that?

A There were three proficiency tests in DNA; two being external every 180 days and one being internal.

Q Did you pass these tests?

A Yes, I did.

Q Did you belong to any professional organization?

A I did. I belonged to the Midwestern Association of Forensic Scientists.

Q Can you tell us the approximate number of samples you analyzed for the presence of bodily fluids?

A Thousands.

Q Can you tell us the approximate number of samples you performed DNA analysis on?

A Thousands.

Q Have you previously testified in a court of law as an expert in forensic DNA analysis?

A Yes.

MS. PETRONE: At this time I would tender the witness as an expert of both forensic biology and forensic DNA analysis.

[JJJ 61] MR. WALSH: No questions.

THE COURT: Witness is an expert in forensic biology and forensic DNA analysis.

MS. PETRONE: Q What do the letters PCR stand for?

A They stand for preliminary [sic] chain reaction.

Q Is that spelled P-O-L-Y-M-E-R-A-S-E?

A Yes, it is.

Q Is this the type of DNA testing that you did at the Illinois state police crime lab?

A Yes, it is.

Q Is this type of testing generally accepted in the scientific community?

A Yes, it is.

Q Is this one of the most modern types of DNA testing available?

A Yes, it is.

Q Can you briefly explain how PCR DNA testing is done?

A Briefly PCR takes the evidence samples which typically comes in low amounts, and we need to multiply it, make greater amounts so we can do our scientific examination on that and through a series of different cycles and temperature changes, we are able to make millions and millions of areas of interest on the DNA [JJJ 62] molecule.

Q After the DNA is amplified, what is done?

A After the DNA is amplified, then the specific areas of interest are tagged with florescent markers and examined through a genetic analyzer, and a DNA profile is generated.

Q In this manner can male DNA profile be identified from semen?

A Yes, it can.

Q Can this profile be compared to DNA from a suspect's blood to determine if it is a match with or consistent with having originated from that suspect?

A Yes, it can.

Q Can this testing be used to exclude as well as include a person as being a contributor to a sample?

A Yes.

Q Is the statistical probability of a match determined?

A Yes.

Q Is calculating statistical probability of a match part of your DNA training?

A Yes, it is.

Q Is the method used by the Illinois State police crime lab of determining the statistical [JJJ 63] probability of a match generally accepted in the scientific community?

A Yes, it is.

Q Can you briefly explain how this is done?

A The alleles are looked at and put into a frequency data base to determine how common they are in the general population.

Q Directing your attention to the years when you were employed by the state crime lab 2000 and 2001, was it the practice of the Illinois state police crime lab in Chicago to send evidence samples from cases being worked on to [Cellmark] diagnostic laboratory in Germantown, Maryland?

A Yes.

Q Was [Cellmark] an accredited crime lab?

A Yes.

MR. WALSH: Objection.

THE COURT: Overruled.

MS. PETRONE: Q Why was this done?

A To expedite and reduce our backlog.

Q How was the evidence sent?

A It was sent in a sealed condition via Federal Express.

Q Was shipping manifests or records kept as all [JJJ 64] evidence sent by the Illinois state police crime lab to [Cellmark] diagnostic laboratory?

A Yes.

Q Were these records kept in the ordinary course of business at the Illinois state police crime lab?

A Yes, they were.

Q Were these records kept in a secured area of the lab?

A Yes, they were.

Q Who has access to these records?

A Laboratory personnel.

Q Were these records ordinarily relied on by analysts in performing their work?

A Yes, they were.

Q Were these records used to maintain a record of the chain of custody of evidence?

A Yes.

Q How would the evidence be returned to the Illinois state police crime lab from [Cellmark] diagnostic laboratory?

A In a sealed condition via Federal Express.

Q Is this manner of transporting evidence for DNA analysis generally accepted in the scientific [JJJ 65] community?

A Yes, it is.

Q Was it then and is it now a commonly accepted practice in the scientific community for one DNA expert to rely on the records of another DNA expert in order to complete his or her work?

A Yes.

MR. WALSH: Objection to the form of question.

THE COURT: Overruled, she answered.

MS. PETRONE: Q Directing your attention specifically to RD number F083574 Illinois state police crime lab number C00007770 involving the victim named Latonya Jackson. On the date of November 28th of 2000, was evidence from this case sent to [Cellmark] diagnostic laboratory from the Illinois state police crime lab in the manner in which you described?

MR. WALSH: Objection, hearsay.

THE COURT: Overruled.

MS. PETRONE: Q What was the evidence that was sent?

A Vaginal swab and a blood standard from Latonya Jackson.

Q Was this transportation of evidence documented in shipping manifest records of the Illinois [JJJ 66] state police crime lab?

A Yes, it was.

MS. PETRONE: May I approach?

THE COURT: Yes.

MS. PETRONE: Q Showing you People's Exhibit Number 25 for identification and ask if you recognize that?

A I do.

Q What is that?

A It's a shipping manifest.

Q Is that a manifest that's kept in the ordinary course of business by the Illinois State police crime lab?

A Yes, it is.

Q And does this manifest document evidence on several cases, this case and cases that have nothing to do with this that were sent on the same date from the Illinois state police to [Cellmark] diagnostic laboratory?

A Yes.

Q Referring to this case number C00007770, does it document when this evidence was sent and the method that was used to send this from the State police lab in Chicago to [Cellmark] diagnostic lab in Maryland?

A Yes, it does.

[JJJ 67] Q What was the date and what was the manner noted in this manifest?

A The date was November 28th of 2000 and the manner noted was via Federal Express.

Q And is there also a specific Federal Express number noted on the document?

A Yes, there is.

Q And does this document also note the date received by [Cellmark] diagnostic laboratory?

A Yes, it does.

Q And what is that date?

A November 29, 2000.

Q Showing you what's been marked as People's Exhibit Number 26 for identification. Do you recognize that?

A I do.

Q What is that?

A The return shipping manifest.

Q Is that a return shipping manifest for other cases that have nothing to do with this one plus this case number C00007770?

A Yes, it is.

Q And does this indicate the date that the evidence in that case number was sent back from [Cellmark] [JJJ 68] diagnostic laboratory in Maryland to the Illinois state police crime lab in Chicago, Illinois?

A It does.

Q What is the date that this manifest notes?

A April 3rd of 2001.

Q And does it show the manner of shipment?

A Manner of shipment was by Federal Express and there's a shipping number.

Q Is this manifest also People's Exhibit Number 26 kept in the ordinary course of the business at the Illinois state police crime lab?

A Yes, it is.

Q Were these pieces of evidence People's Number 25 and 26 relied on by you when you did work on this case?

A Yes, it was.

Q And these also keep track of the chain of custody; is that correct?

A Correct.

Q Do they also note what evidence was sent?

A Yes, they do.

Q What evidence was sent?

A The vaginal swabs and the blood standards.

Q Were you assigned to work on this case at the [JJJ 69] Illinois State police crime lab?

A Yes, I was.

Q Was there a computer match generated of the male DNA profile found in semen from the vaginal swabs of Latonya Jackson to a male DNA profile that had been identified as having originated from Sandy Williams.

MR. WALSH: Objection, lack of foundation, Judge. There's no evidence with regard to any testing that's been done to generate a DNA profile by another lab to be testified to by this witness.

THE COURT: As to who?

MR. WALSH: With regard to the swabs that she says that testimony that were sent to another lab in Maryland.

THE COURT: Right.

MS. PETRONE: I'm not getting at what another lab did. I was referring to a computer data base without saying any more about that but after she received that information for the data base she did her own testing based on that information.

THE COURT: Overruled.

MR. WALSH: It's still relying on testing that's done by another lab.

THE COURT: We will see. If she says she didn't do [JJJ 70] her own testing and she relied on a test of another lab and she's testifying to that, we will see what she's going to say. I don't know. Go ahead.

MS. PETRONE: Q Was there a computer match generated of the male DNA profile found in semen from the vaginal swabs of Latonya Jackson to a male DNA profile that had been identified as having originated from Sandy Williams?

A Yes, there was.

Q Did you compare the semen that had been identified by Brian Hapack from the vaginal swabs of Latonya Jackson to the male DNA profile that had been identified by Karen Kooi from the blood of Sandy Williams?

A Yes, I did.

MR. WALSH: Objection to the form of the question.

THE COURT: Overruled.

THE WITNESS: Yes, I did.

MS. PETRONE: Q Did you use the method of DNA testing which you described earlier?

A Yes.

Q What was your conclusion?

A I concluded that Sandy Williams cannot be excluded as a possible source of the semen identified in [JJJ 71] the vaginal swabs.

Q In other words is the semen identified in the vaginal swabs of Latonya Jackson consistent with having originated from Sandy Williams?

A Yes.

Q What is the probability of this profile occurring in the general population?

A Can I refer to my report?

THE COURT: Yes.

THE WITNESS: This profile would be expected to occur in approximately 1 in 8.7 quadrillion black, 1 in 390 quadrillion white, or 1 in 109 quadrillion Hispanic unrelated individuals.

Q Do you know the approximate population of the world?

A Approximately 6 billion.

MR. WALSH: Objection.

THE COURT: Overruled.

MS. PETRONE: Q In your expert opinion, can you call this a match to Sandy Williams?

A Yes.

MR. WALSH: Objection.

THE COURT: Overruled.

MS. PETRONE: No further questions.

[JJJ 72] CROSS-EXAMINATION

BY

MR. WALSH:

Q You prepared a report in this case?

A I did.

Q And that was dated April 19, 2001?

A Yes.

Q I'll show you what I'll mark as Defense Exhibit Number 6 for identification. Can you take a look at that report. Is that the report you made and issued in this case?

A Yes.

Q Dated April 19, 2001?

A Yes.

Q Is that the only report you had in this case?

A Yes.

Q And that test – strike that. That report indicates that testing was performed by on the vaginal swabs by [Cellmark] diagnostic, correct?

A Correct.

Q You did not perform testing on those vaginal swabs, correct?

A Correct.

Q You did not receive those vaginal swabs?

[JJJ 73] A Correct.

Q You never examined that evidence, correct?

A Correct.

Q And you based your testimony on testing that was done by that other lab, correct?

A Correct.

Q You did not observe their testing or their procedures, correct?

A Correct.

Q You did not know if they observed or checked the calibration of their instruments, correct?

A Well, [Cellmark] diagnostic is an accredited laboratory so they would have to meet certain guidelines to perform DNA analysis for the Illinois State police and so all those calibrations and internal

proficiencies and controls would have had to have been in place for them to perform the DNA analysis.

Q You'd hope they would be able to.

MS. PETRONE: Objection.

THE COURT: Sustained.

MR. WALSH: Q You don't know – the question was you did not observe calibration or the acts of calibration of any instrumentation used by [Cellmark]?

A I did not observe anything.

[JJJ 74] Q And you did not – did you review their procedures?

A No, I did not.

Q Are you aware that they have different procedures?

A Yes, I am.

Q From the Illinois State police?

A Yes.

Q And are you aware that they have different standards for the results?

A Yes.

Q You did not observe the preparation of or running of any controls in that case?

A No, I did not observe.

Q Either positive controls or negative controls, right?

A I did not observe them doing that.

Q Now, you received our report from [Cellmark], right?

A Yes.

Q Dated February 15, 2001?

A Yes, Judge, may I look at my copy?

THE COURT: Yes.

THE WITNESS: What was the date on that?

[JJJ 75] MR. WALSH: Q February 15, 2001?

A Yes.

Q And that report included a allele chart, correct?

A Yes.

Q And that would be the results of their testing?

A Correct.

Q In that included data that you used to run your data bank search?

A Correct.

Q You did not interpret the results by [Cellmark], did you?

A Partially. I did review their data, and I did make my own interpretations so I looked at what the programs, what they sent to me and did make my own determination, my own opinion.

Q That would be the electropherogram with regard to the vaginal swab E2, right?

A What was the last part of your statement?

Q E2?

A Yes.

Q You did not receive electropherograms for the E1?

[JJJ 76] A I believe all I have in my case file is E2, correct.

Q And you did not receive electropherograms form the standard of Latonya Jackson, did you?

A No, I do not.

Q Did you receive electropherograms for any positive controls?

A No, I did not.

Q Did you receive electropherograms for any negative controls?

A No, I did not.

Q And all of those are generated data which would be part of accepted practice in generating DNA analysis, correct?

A Correct.

Q And you did not do any biology testing either, correct?

A Correct.

Q Now, with regard to shipping evidence to [Cellmark], you did not prepare any of that packaging, right?

A Correct.

Q And there were at least 20 other cases that were batched together and sent out?

[JJJ 77] A I believe so as per the shipping manifest.

Q And you don't know what was done with that box when it landed at [Cellmark], correct?

A Correct.

Q With regard to comparison, DNA profile has, looks at 13 separate locations plus a gender location, right?

A And it also looks at an additional 4.

Q Not –

A Did you say, I'm sorry?

Q I said 13?

A You're correct.

Q And each of those locations will report – the results will report out two numbers; one inherited from your mother, one inherited from your father, correct?

A Correct.

Q Sometimes those can be the same number?

A Correct.

Q And then for a comparison if the numbers are the same in one profile in an evidence sample compared to a reference standard, that would be said to be a match, right?

A What numbers are you referring?

[JJJ 78] Q If the two numbers at one location from an evidence sample are the same as the two numbers from that same location in a reference standard, it would be said to be a match?

A You're referring to the Alleles.

Q Yes.

A Yes.

Q And from there you would go on to calculate a frequency of that match or that inclusion of the incurring?

A Correct, yes.

Q If one of those numbers is different, it's not a match, right?

A Correct.

Q It's an exclusion, right?

A Correct.

Q And then the probability of that would be zero, right?

A Well, it would be an exclusion so they wouldn't do any statistics on it.

Q Now, you entered the what was labeled the deduced male profile from the [Cellmark] report for the data bank search, right?

A Yes.

[JJJ 79] Q And a data bank search will only come up with matches to those in the data bank?

A Yes.

Q If the contributor is not in the data bank, you won't get a hit or result?

A It has to match to something in the data base, correct.

Q You're aware of coincidental matches?

A And how would you define that?

Q False, positive.

A If there was a question of a match, then we would investigate that further by looking at the electropherograms from all the cases involved and do some more comparisons on that.

Q You are aware of that profiles will match at a certain number of locations?

MS. PETRONE: Objection to a certain number.

THE COURT: Sustained.

MR. WALSH: Q From anywhere between 1 and 13 locations?

A Yes. And I guess the best way to say that is the data base is a tool that we use and then from that tool, we go on to investigate and look further at the data that we have to determine if it is a match.

[JJJ 80] Q And is it fair to say that the larger the data bank the higher the chance of a coincidental match?

A It's fair to say because there is more information in there.

Q Now, are you aware that the Arizona crime lab had an instance of a coincidental match at nine locations?

MS. PETRONE: Objection.

THE COURT: Sustained.

MR. WALSH: Q Now, the donor profile generated by [Cellmark], you said you reviewed the electropherograms that they sent?

A Yes.

Q Just on that one fraction?

A Correct.

Q And just to back up from for general testing purposes, a vaginal swab DNA is extracted from that swab, correct?

A Yes.

Q And there's what's called differential extraction performed on that swab, right?

A Yes.

Q And that's to try to separate the female scanner epithelial cells from any possible sperm cells, [JJJ 81] correct?

A Yes.

Q Sometimes there will be separation in the testing where you get one profile, a single donor profile, correct?

A Correct.

MS. PETRONE: Objection to the form that question.

THE COURT: She seemed to understand it. Overruled.

MR. WALSH: Q And sometimes you won't get separation when you get a mixture, correct?

A Correct.

Q The results you received here indicated a mixture, correct?

A Correct.

Q And you reviewed the electropherograms just for that second fraction from the differential extraction proceed, correct?

A Correct.

Q You did not receive the electropherograms for that first fraction, that first part of the extraction?

A Correct.

Q Now, if the results were wrong from [Cellmark]'s data and any matches you call would be wrong, correct?

[JJJ 82] MR. BUNTINAS: Objection.

THE WITNESS: Well –

THE COURT: Hold it. Overruled. Didn't she do her own testing on this?

MS. PETRONE: Yes.

MR. BUNTINAS: She did.

THE COURT: She matched –

MR. WALSH: She matched up numbers. She did not perform any testing.

MR. BUNTINAS: That's the testing that was performed by this expert and she has an opinion based on it.

THE COURT: Overruled. You can answer.

THE WITNESS: Well, some – they sent the chart which listed the profile that was in the F1 fraction E1. Also, the profile that was in the E2 fraction and the profile that was in Latonya Jackson's standard, and I only had the electropherograms from the E2 fraction; however, the chart gives me the profile that was in the F1 fraction and it also gives me her standards so I do have that information.

MR. WALSH: Q But you did not receive their data or their electropherograms?

A No, I did not receive electropherograms for [JJJ 83] those fractions.

Q You did not receive any computer data, the electronic data?

A I, myself, did not receive that but that was sent to the laboratory.

Q You never viewed that?

A Oh, no, I did not.

Q And so if the results in their E2 data were wrong, would any matches be wrong?

MR. BUNTINAS: Objection, Judge.

THE COURT: Sustained. Speculation with no basis of fact.

MR. WALSH: Q Now, you're aware that the donor profile generated by [Cellmark] – strike that. With regard to the donor profile generated by [Cellmark], all of the Alleles there are not foreign to the victim, correct? Strike that. In other words is it fair to say that some of the alleles in the locations in the donor profile are matched to the victim?

A Some of the alleles in the donor profile are of match to the victim, is that your question?

Q Yes.

A Yes, some of them are consistant with the victim.

[JJJ 84] Q For example D21, is a 29 and 30?

A Yes.

Q And that's the victim's profile, correct?

A Correct.

Q And in the T-POX location is an 8-11, correct?

A Yes.

Q And that's Ms. Jackson's reported profile, correct?

A It's consistent with her, yes.

Q And no other Alleles were reported there, right?

A Correct.

Q Now, are you aware that there was a location in the donor profile which reported three numbers, D5?

A Correct.

Q Where you would expect for a donor to have or the – or a contributor to have either one or two numbers, correct?

A Not in this instance, no. This is a mixture and so the interpretation of a mixture differs from the interpretation of the fraction if there were not a mixture so with regard to coming up with the information to enter into the data base, we are entering just the [JJJ 85] Alleles only; that is, we are not putting in a profile, per say, it's just the alleles so that's why that particular area there are three Alleles because of the interpretation, you were not able to determine a profile with only two because it is two people.

Q Sure. Well, because the deduced profile is not purporting to be a single source profile, right?

A The deduced – they have it written it's a mixture, yes.

Q It could be – a number of possibilities could match that profile?

A That particular area?

Q Yes.

A We are talking than about the three Alleles?

Q Yes.

A There's a limited number of profiles that I could match with that area.

Q Well, six different ones, right?

A Well, we are talking about only two people in the mixture.

Q Well, from the combination of 3 and here in the D5 the deduced male profile was a 10, 12 and a 13 so the different combinations of the – could include 10,10, right?

[JJJ 86] A Not in this instance, no.

Q A 10, 12?

A A D5?

Q Yes.

A No, not in this instance.

Q A 10, 13?

A That's a possibility.

Q A 12, 12?

A That is not a possibility.

Q A 12,13?

A That is a possibility.

Q Or a 13,13?

A That is a possibility.

Q And there could also be a tri-allele pattern, correct, where the three Alleles could be the actual donor the 10, 12, 13 pattern?

A That's – in my opinion I would not agree with that statement in this case.

Q You are aware that there are instances of tri-alleleic patterns?

A There are instances, yes.

Q Now, you're aware that some offer these bulk mailings of samples for testing?

A Yes, I am aware of that.

[JJJ 87] Q You don't know how they receive them?

Q You don't know how they receive them?

A Well, we send them out in a sealed condition, and they are sealed and then shipped to the Federal Express with the tracking number so I know when they leave our laboratory, they are sealed.

Q Do you know how they process them when they receive them?

A No, I do not but again [Cellmark] is an accredited laboratory that must meet certain guidelines to a receive accreditation.

Q Are you aware that [Cellmark] cases are batched processed by teams of technicians?

A I am aware of that, yes.

Q And not by the general practice of single analysts done by Illinois state police?

A That's correct, yes, it differs.

Q So it's fair to say that some are multiple people handing multiple samples?

A It's possible, yes.

Q And that's over the course of extraction, the extraction step?

A Yes.

Q The amplification step, two separate quantitation steps as well as the electrophoresis step, [JJJ 88] the analysis?

A That's correct.

Q And you're aware that they use a separate type of instrumentation? Are you aware that they use a gel slab instrument as opposed to a capillary instrument?

A No, I wasn't aware of that.

Q And that requires –

THE COURT: Actually, I'm not going to go entertain that question. According to who? She's not – the phrasing of that question assumes a fact not in evidence that are you aware that they used this and she said she's not aware of it and what does that mean to me as a fact finder that what you just said is true that they do do that; that she's unaware of. Are you going to prove that somehow?

MR. WALSH: It goes to evidence coming in of a different lab testing practices.

THE COURT: I'm just talking about the last question, that question, what does it mean to me. How do I assess that last question.

MR. WALSH: Well, it does go –

THE COURT: As a fact finder.

MR. WALSH: It does go to her ability to interpret [JJJ 89] the data she received with regard to –

THE COURT: Assuming what you're saying is true, your hypothetical, how do I know if it is or if it isn't?

MR. WALSH: Judge, it goes to her basis of knowledge with regard to the testimony that the witness is offering.

THE COURT: Her basis of knowledge of what she's unaware of if what you say is true, which I don't know if it is, doesn't help me one way or the

other on this one question. Rephrase the question or ask something different.

MR. WALSH: Q You're aware that there are different types of electrophoretic platforms for DNA analysis, correct?

A Correct, but the medical field might use a different form for what they are looking for versus what the forensic field would use for what they are looking for.

Q Well, the forensic field, forensic labs use both gel slab, what's called gel slab technology. Are you aware of that?

MR. BUNTINAS: Objection.

THE COURT: Overruled.

[JJJ 90] THE WITNESS: I believe that was for the old PCR technique that used to be done many years ago that's not done anymore. They called that dots and gels. I was not even trained in that.

MR. WALSH: Q You can't determine what instrument was used in the reviewing when you reviewed the electropherograms?

MS. PETRONE: Objection, asked and answered.

THE COURT: Sustained.

MR. WALSH: Q For the interpretation here on differential extraction and generating a donor profile is to look at that E2 profile, correct?

MS. PETRONE: Objection, asked and answered.

THE COURT: Overruled. Go ahead.

MR. WALSH: Q You look at the E2 fraction from the vaginal swabs and compare that to the victim's profile, correct?

A In my opinion that's what [Cellmark] did.

Q And that's how you would do it in your case work, right?

A We have slightly different guidelines so it would be a little bit different.

Q Well, the goal here is to try to determine the male donor?

[JJJ 91] A Correct.

Q And in the E2 fraction or the vaginal swab assuming the victim's profile is present and subtract that out?

A In my opinion that's how [Cellmark] approached it, yes.

Q At the D3 location – strike that. And then after you looked at this data, you compared that to the profile that is purportedly came from Sandy Williams, right?

A Well, after [Cellmark] made their deduced male donor profile, that was put into the data base and then it was generated, the match was generated.

Q And you compared that profile, right?

A To?.

Q The profile that was purportedly came from Sandy Williams?

A Correct.

Q To the vaginal E2?

A Correct, yes.

Q At the D3 location in the vaginal swab E2, 16, 17, 18 in brackets and a 19 were reported, correct?

A Correct.

Q The victim was a 16 and a 17?

[JJJ 92] A Yes.

Q The deduced profile was a 16 and a 19?

A Yes.

Q And Mr. Williams had a 16 and a 19, right?

A I need to refer to my records.

THE COURT: Go ahead.

THE WITNESS: Correct.

MR. WALSH: Q There was no accounting for that 18 there, right?

A In a deduced male donor profile, the 18 was not included and [Cellmark] interpreted – [Cellmark]'s interpretation guidelines differ from ours and when I review the electropherograms that I have, it looks like that 18 may or may not even be a real illegal [sic]. In my opinion it looks like it's some background noise because the other alleles presents are there in a very large quantity. There's a larger amount of the alleles present. Sometimes when you have so much DNA and the instrumentation is only so sensitive sometimes you get background noise and it looks to me in my opinion that the 18 maybe just that background noise.

Q But [Cellmark] reported that out, correct?

A They did not reports [sic] it in the deduced male donor profile. They only reported it as an illegal [sic] that [JJJ 93] was present in the E2 fraction.

Q At the D21 location, the vaginal swab E2 results reported by [Cellmark] were 29, 30 and a 32 indicated that that 32 may be present?

A That is correct. That's how [Cellmark] wrote their key, yes.

Q And the victim had a 29, 30, and they deduced, reported out was a 29, 30?

A Correct.

Q And they did not use that 32?

A No, they did not.

Q At the D5 location again that was where three alleles were reported 10, 12 and 13 in the E2?

A That's correct.

Q And those three were reported in the deduced profile, right?

A Yes, they were.

Q And that there are different possibilities that would fit that profile at that location?

A Yes, sir.

Q At the T-POX location vaginal swab E2 reported by [Cellmark] is 8,11,

A Yes, it is.

Q The reported profile of Ms. Jackson is also [JJJ 94] 8, 11?

A That's correct.

Q That was not subtracted out but that 8, 11 was still reported as the deduced profile, right?

A That's correct.

Q Now, you're not able to determine whether alleles are carried over by the victim or by an offender, correct, or male donor?

A Which area are you referring to?

Q At T-POX?

A In my opinion with this profile, it is a mixture so when we have a mixture you are looking at the profile as a whole and again your interpretation very [sic] slightly and it's important to note that the alleles at each lucus [sic] on a DNA molecule that we look at are very common. It is not uncommon for you and I to have the same alleles at a locus or you and I to have the same Alleles. The power of this DNA comes with looking at all 13 areas of the DNA because it's that uniqueness looking at all 13 that's going to give us the numbers. And here like a T-POX and in the other two that you mentioned, there are only two alleles and like I say in my opinion there are only two people in this profile and it just may so happen that they share an 8 and they [JJJ 95] share an 11 or it may so happen that she is an 8 and 11 and he is just an 11, 11 or he is an 8, 11 and she is an 8, 8. There's only certain possibilities that can be attributed at each locus.

Q If you have full data for that profile, correct?

A What exactly does that mean?

Q Well, you could get a degraded evidence sample?

MS. PETRONE: Objection, speculative.

THE COURT: Overruled.

THE WITNESS: Yes, it's possible to have a degraded sample but if the sample was degraded, that would be known by our earlier examination of the evidence. We determine the quantity and the

DNA that we have and the quality of the DNA and also after we look at the electropherograms, you can see the degradation, their specific patterns, and the data looks a certain way when it is degraded. The peaks aren't as defined. They slope off missing here and there. Different things happen with degradation, and I didn't see any evidence of degradation in this particular fraction.

Q And you did not receive data for the quantitation, correct?

[JJJ 96] A Correct.

Q And you only received electropherograms for the E2, correct?

MS. PETRONE: Objection, asked and answered.

THE COURT: Sustained.

MR. WALSH: Q Now, the reports that you prepared in this case and all reports in this case were prepared for this criminal investigation, correct?

A Yes.

Q And for the purpose of the eventual litigation here, correct?

A Yes.

Q Now, are you aware that the [Cellmark] lab in Germantown, Maryland, is subsequently closed?

MS. PETRONE: Objection.

THE COURT: Sustained.

MR. WALSH: Q Are you aware of any instances of contamination or fraud by analysts at [Cellmark]?

MS. PETRONE: Objection.

THE COURT: Sustained.

MR. WALSH: Q With regard to different possibilities on the deduced male profile if that does not match Sandy Williams at each of those locations, he will be excluded, correct?

[JJJ 97] A Well, again it's a mixture so when we have the different possibilities of profiles, there's different possibilities of him matching.

Q And it just takes one exclusion of one number to be excluded?

MS. PETRONE: Objection.

THE COURT: Overruled. Is that true?

THE WITNESS: It is – two part answer. It is true it takes one illegal [sic] to exclude; however, we are not talking about a straight profile in this case. We are talking about a mixture and because it is a mixture from the F2 fraction of the victim and the male or the female and the male fraction, when we do those deduced male profiles an allele from the victim maybe included in one of those possibilities so in that allele from the victim may not match the suspect's but that would not be a reason to include because

there are two other possibilities there that if it was a match, he would match too so once he is included as a match in one of those possibilities, it's an inclusion and you would – and this is again how we look at the whole profile and all the information that we are given we would see that allele and determine, okay, that is from the victim, and we are looking at all the other loicides [sic]. Is there [JJJ 98] evidence a third person? No. Is there evidence of two people? Yes. Does he fit one of these possibilities? Yes, he does. What about this allele? Could it have come from the victim? Yes, it could. And when we do the statistics on that particular locus, we are putting the Alleles in. We are not putting a profile so we will put in three alleles so the stats will actually be more common. The stats reflect the interpretation on that locus. It is not as unique.

MR. WALSH: Q And if taking a mixed profile, if you take out – if you account for the victim's presence there and if there are additional alleles or combinations of alleles that do not match a suspect, that person would be excluded.

MS. PETRONE: Objection.

THE COURT: Is that what's here?

THE WITNESS: In this particular locus, all combinations are reported. That is the most conservative way to do it and that's how it was done. We would not pull out the – let me refer to my electropherograms. In this instance it's a three allele pattern and there is evidence of alleles being shared so I

would not pull out the victim but each locus, like I said, with a mixture, each locus is interpreted a little [JJJ 99] bit differently, and we will always go the most conservative route and do the alleles only and provide all possibilities.

MR. WALSH: Q At D5 victim was a 10, 12?

MS. PETRONE: Objection, asked and answered.

THE COURT: Sustained.

MR. WALSH: Q If the male donor was a 10, 12 or I'm sorry, if the male donor was a 13, 13, Sandy Williams would have been excluded, correct?

MS. PETRONE: Objection.

THE COURT: Overruled.

THE WITNESS: In this instance with these three alleles that the 12 is the largest of the two and the assumption is the 12 how it's interpreted is, in fact, being shared.

MR. WALSH: Q You did not do calculations for that, did you?

A When we do the calculations, we are putting in the alleles only so the possibility at that locus, the possibilities were a 12, 13, a 10, 13 and a 13, 13.

Q You did not do any of the peacock (phonetic) calculations?

A I beg your pardon?

Q You did not do any peacock calculations?

[JJJ 100] A Those are determined from the instrumentation during electrophoresis process.

Q So you did not?

A They were already there, no. And that's just something that comes off the instruments.

MR. WALSH: Nothing further.

THE COURT: Redirect?

MS. PETRONE: Could I have a moment?

THE COURT: Sure. I'm taking a ten minute recess. Don't talk to anyone during the recess, and we will call you back.

REDIRECT EXAMINATION

BY

MS. PETRONE:

Q Ms. Lambatos, the only two people in this mixture are Sandy Williams and Latonya Jackson; isn't that correct?

A That's correct.

Q In your expert opinion, were the methods used by [Cellmark] diagnostic laboratory here generally accepted in the scientific community?

MR. WALSH: Objection.

THE COURT: Overruled.

THE WITNESS: Yes.

[JJJ 101] MS. PETRONE: Q You, yourself, helped develop line proficiency tests to be administered to analysts at [Cellmark]; isn't that correct?

A Correct.

Q And you routinely, in the course of your work in the Illinois state police crime lab, relied on results from [Cellmark] in performing your work; isn't that correct?

MR. WALSH: Objection.

THE COURT: Overruled.

THE WITNESS: Correct.

MS. PETRONE: Q And in your work in this case, you also relied on work from analysts Karen Kooi and Brian [Hapack]; is that correct?

A Correct.

Q You received the results in this case from [Cellmark], and you agreed with their analysis; is that correct?

A Correct.

Q You reviewed the data and you made your own determination; is that correct?

MR. WALSH: Objection.

THE COURT: Overruled.

THE WITNESS: Correct.

[JJJ 102] MS. PETRONE: Q Did you see any problem with either the chain of custody or with contamination of evidence?

MR. WALSH: Objection.

THE COURT: Overruled.

THE WITNESS: No, I do not.

MS. PETRONE: Q The fact that there was a mixture of Sandy Williams and Latonya Jackson in this case does not affect your conclusion that there was a match to Sandy Williams of semen in the vaginal swabs of Latonya Jackson; is that correct?

A Correct.

Q And the fact that there was a mixture of two people, Sandy Williams and Latonya Jackson, does not change your opinion that the match here is expected to occur in 1 in 8.7 quadrillion blacks; is that correct?

MR. WALSH: Objection.

THE COURT: Sustained.

MS. PETRONE: Q In your expert opinion, the DNA and the vaginal swabs of Latonya Jackson

came from Latonya Jackson and Sandy Williams; isn't that correct?

A Correct.

MS. PETRONE: Nothing further.

THE COURT: Re-cross?

[JJJ 103] RECROSS-EXAMINAITON

BY

MR. WALSH:

Q You only had electropherograms on the E2 of the vaginal swab, correct?

MS. PETRONE: Objection.

THE COURT: Overruled.

THE WITNESS: Correct.

MR. WALSH: Q You had no other electropherograms on any other evidence tested there, correct?

A Correct.

Q You had no other documentation with regard to any of the sample prep, correct?

MS. PETRONE: Objection, beyond the scope.

THE COURT: Sustained.

MR. WALSH: Q You had no other documentation other than a shipping manifest with regard to the chain of custody?

MS. PETRONE: Objection.

THE COURT: Sustained.

MR. WALSH: Q Well, you have no other documentation to examine chain of custody, correct?

MS. PETRONE: Objection.

THE COURT: Overruled.

[JJJ 104] THE WITNESS: Correct.

* * *

MR. WALSH: I'd like to address the Court. I would move to exclude that evidence with regards to testing done by [Cellmark] based on 6th amendment right to confront witnesses and cite the United States Supreme Court case of [Crawford] versus Washington. I also cite the Illinois Supreme Court case of People versus Raney. There's no evidence with regards to work, any work done by [Cellmark] analyst to justify testimony coming in into this case with regard to their analysis, and I'd ask that that testimony be stricken.

THE COURT: State?

MR. BUNTINAS: Judge, Crawford versus Washington doesn't apply in this case. It's a complication [sic] clause case where the witness' testimony of the defendant's – the testimony of the defendant's

wife at trial in Washington State on a marriage privilege law. It doesn't apply in this case, Judge. Judge, this type of expert testimony is done routinely every day in this [JJJ 105] courtroom, Judge, and since the Illinois state police crime lab has been using Orkin, [Cellmark], and Bodi technology group to outsource some of their analysis, this is exactly the kind of testimony that you get from the analysis, not the technical person who does the actual analysis. We are not going to be putting on the 15 people who analyzed or processed this evidence at [Cellmark]. You call the analyst who reviewed the data, formed the opinion, gathered everything, and did the statistical analysis, and performed an opinion as an expert, Judge.

Judge, you've got cases throughout the country that apply the specific, the specific type of evidence where you have [Cellmark], results from [Cellmark] being testified by experts in the case of Commonwealth versus Sparks, 742 N.E.2d 133. It's a 2001 Massachusetts Supreme court case again using this exact type of evidence. Also in State versus Kennedy, 1077 S.W. 3d 58. It's a 1999 Tennessee case. Again, the defendant's not deprived the right to cross examine. There is a witness who analyzed the data, they have the opportunity to cross examine them. If there is a genuine problem with any of the results or any of the analysis, they have the right to bring in their own witnesses to rebut [JJJ 106] that or bring that issue up. Doesn't go to the admissibility of the testimony. It goes to the weight of the testimony that they chose to challenge it that they can. There's not a jurisdiction

in any – there's not a jurisdiction within the country that is [sic] rejected this type of testimony that's been expert testimony at all.

Judge, if the basis or the legal standard that allows this type of testimony that was allowed in every day the expert witness testimony comes with the adoption of the federal rule of evidence 703 by the Illinois Supreme Court in the case of People versus [Nieves] and Wilson versus Clark; that the testimony by experts facts are dated in a particular case upon which an expert based on opinion or reference or inference maybe perceived by or made known to the expert at or before the hearing. And if they rely on that in forming their opinion, it's allowed. Judge. It's similar to evidence of a doctor reviewing X-rays or in the [Nieves] case, the testimony of Dr. Donahue of reviewing an autopsy performed by another doctor. Dr. Donahue never performed the autopsy in the [Nieves] case, but just like in this case he reviewed the data provided by another doctor who did perform the autopsy, formed his opinion [JJJ 107] that agreed with the previous opinion and that was admissible, Judge.

Judge, in addition since the Illinois state police crime lab has been sending cases to Orkin, [Cellmark], and Bodi Technology, this kind of evidence has been accepted in courts within this building, numerous courts, numerous judges have reviewed this type of evidence and it becomes standard practice for an expert to come in and testified with regard to the results, the mechanical results performed at a

different lab and then taken that raw data and analyzing and coming up with an opinion and that's what's been done in this case and that's what's been done in numerous courts within this building. It's an accepted practice among the judges – Judge [Toomin], Judge [Bowie], and I believe Judge Fox has accepted this among other judges as an acceptable use of experts that they would analyze raw data and apply that data, Judge, so, therefore, on that basis, Judge, we believe that the evidence is admissible. We are asking you deny counsel's motion to exclude.

THE COURT: Rebuttal?

MR. WALSH: Judge, the practice here deals with analysis done by the state lab and comment and you heard testimony from those analysts and that is the general [JJJ 108] practice, to hear from the analyst who performs the work. Defendant has a right under the 6th amendment and the Illinois constitution the right to confront the witnesses against him. Crawford versus Washington makes that clear that that with regard to testimonial evidence and submit that the evidence here with regards to the analysis performed the lack of evidence presented with regard to as far as chain of custody, the receipt of evidence, how it's handled, processed, how equipment is calibrated, how re-agents are prepared, how tests are run, what procedures are followed, what people handled, manipulate the evidence. None of that was presented here. Defendant has a right to confront the testimonial evidence against him with

regard to those practices. People versus Raney from the Illinois Supreme Court stands for proposition that evidence must be presented with regard to those factors of calibration of equipment, accuracy and reliability of testing procedures performed. The evidence you heard here does not support that and is just based on speculation of review of partial documentation and it's clear that the witness here, Ms. Lambatos, just received partial documentation, partial data from the lab and was not able to answer questions with regard to the testing [JJJ 109] practices. The State's assertion of our ability to call witnesses improperly shifts the burden onto the defense which violates defendant's constitutional right to a fair trial and violates the burden of proof. The cases cited all predate, I believe, Crawford versus Washington, and I submit that the evidence of Ms. Lambatos with regard to [Cellmark] testing is improperly admitted for the Court and should be stricken.

THE COURT: I don't think Crawford applies in this kind of case. I've read a lot of memorandums of law about Crawford. The premier memorandum is written by Appellate court justice Quinn. I've read his memorandum, his updated memorandum which he updates every year. I don't think this is a Crawford scenario, and I agree with the State that the evidence is – the issue is, you know, what weight do you give the test, not do you exclude it and accordingly your motion to exclude or strike the testimony of the last witness or opinions based on her own

independent testing of the data received from [Cellmark] will be denied.

* * *

STATE OF ILLINOIS)
) SS
COUNTY OF COOK)

IN THE CIRCUIT COURT OF COOK COUNTY
CRIMINAL DIVISION

PEOPLE OF THE STATE OF ILLINOIS	)	No. 01-CR-10786
vs.	)	
SANDY WILLIAMS	)	

MOTION FOR A NEW TRIAL

(Filed May 24, 2006)

Now comes the defendant, SANDY WILLIAMS, by his attorney, EDWIN A. BURNETTE, Public Defender of Cook County, through SOPHIA ATCHERSON, Assistant Public Defender, after a finding of guilty and before sentencing and respectfully moves this Honorable Court to set aside the finding of guilty in the above-entitled cause and grant him a new trial, it being expressly understood that defense counsel has not yet been furnished with an official transcript of the trial and makes this motion on behalf of her client, without prejudice to or waiving the later discovery of error in the trial record.

IN SUPPORT WHEREOF, defendant states as follows:

1. The State failed to prove defendant guilty of the charge beyond a reasonable doubt.

2. The finding is against the weight of the evidence.

3. The defendant was denied due process of law.

4. The defendant was denied equal protection of the laws.

5. The State failed to prove every material allegation of the offense beyond a reasonable doubt.

6. The defendant did not receive a fair trial and impartial trial as guaranteed him under Article I, Section 2, 6, 8, and 10 of the Constitution of the State of Illinois (1970) and under the Fourteenth Amendment of the Constitution of the United States.

7. The Court erred in overruling the defendant's motion for a directed finding at the close of the State's case.

WHEREFORE, for the various reasons urged before and during the trial, and every error as may appear from the official transcript of proceedings, defendant requests a New Trial.

Respectfully submitted,

EDWIN A. BURNETTE
Public Defender of Cook County

/s/ Sophia Atcherson
BY: SOPHIA ATCHERSON
Assistant Public Defender
Attorney #30295

STATE OF ILLINOIS)
) SS
COUNTY OF COOK)

IN THE CIRCUIT COURT OF COOK COUNTY
CRIMINAL DIVISION

PEOPLE OF THE STATE OF ILLINOIS	)	No. 01-CR-10786
vs.	)	
SANDY WILLIAMS	)	

SUPPLEMENTAL MOTION FOR A NEW TRIAL

(Filed Jul. 10, 2006)

Now comes the defendant, SANDY WILLIAMS, by his attorney, EDWIN A. BURNETTE, Public Defender of Cook County, through SOPHIA ATCHERSON, Assistant Public Defender, after a finding of guilty and before sentencing and respectfully moves this Honorable Court to set aside the finding of guilty in the above-entitled cause and grant him a new trial.

In addition to the statements made in support of the previous motion, the defendant states the following:

1. The court erred in overruling defense counsel's objection to arresting officer Denyal Williams' testimony that the nature of the call he was responding to was a criminal sexual assault in progress. The nature of the call was improper hearsay. (4/24/06 transcript, p15)

2. The court erred in allowing the State to introduce testimony relating to the other pending criminal cases of the defendant in violation of the defense's motion in limine. Specifically, that after responding to a call of a criminal sexual assault in progress, Officer Denyal Williams "[met] with a victim in this case Natasha Hardy," and that Officer Williams then saw the defendant fleeing, gave chase and placed him into custody. (4/24/06 transcript, p15-17)

3. That the court erred in denying defense counsel's motion to strike Officer Williams' testimony in its entirety, as it violated the defense motion in limine regarding the defendant's other pending criminal cases.

4. That the court erred in overruling defense counsel's hearsay objection to the testimony of Officer Alvin Crawford that he responded to a dispatch call for a criminal sexual assault.

5. That the court erred in sustaining the State's objection to defense counsel asking Officer Crawford whether he could have changed what his partner wrote in her report if he did not agree with it.

6. That the court erred in sustaining the State's objection to defense counsel asking Officer Crawford whether the complaining witness, LaTonya Jackson, expressed any doubt to Officer Crawford about her identification of James McChristine as her attacker while at the hospital.

7. That the court erred in sustaining the State's objection to defense counsel asking Officer Crawford whether Mr. McChristine was free to leave after being identified as the offender by Ms. Jackson.

8. That the court erred in overruling defense counsel's objection to the State asking Dr. Nancy Schubert to offer an opinion about whether the chance of vaginal trauma is decreased if a person does not resist due to fear.

9. That the court erred in overruling defense counsel's objection to the lack of foundation or basis of knowledge for Dr. Schubert to testify that the sexual assault kit that she prepared was subsequently turned over to Detective Michael Baker.

10. That the court erred in overruling defense counsel's hearsay objection to Sandra Lambatos, who testified regarding her work as an analyst for the Illinois State Police Crime Lab, being allowed to testify to the manner in which evidence from the case was sent to Cellmark Diagnostic Laboratory based on her review of shipping manifests.

11. That the court erred in overruling defense counsel's objections to Sandra Lambatos being allowed to testify to her opinions and conclusions reached as a result of her analysis of testing conducted at Cellmark Diagnostic Laboratory where there was no foundation for her testimony because Ms. Lambatos had no personal knowledge regarding the testing done by Cellmark, and the defendant, therefore, was denied the right to meaningfully confront

the witnesses against him. Specifically, the court erred in allowing Ms. Lambatos to testify:

a. That "there was a computer match generated of the male DNA profile found in semen from the vaginal swabs of LaTonya Jackson to a male DNA profile that had been identified as having originated from Sandy Williams," where there was no foundation for the male DNA profile obtained from the vaginal swabs that were tested by Cellmark Diagnostic Laboratory; (4/26/06 transcript, p. 67)

b. That she made a comparison of the semen that was identified from the vaginal swabs of LaTonya Jackson to the male DNA profile that had been identified by Karen Kooi from the blood of Sandy Williams; (4/26/06 transcript, p. 68)

c. That it was her expert opinion that the male DNA profile from the vaginal swabs of LaTonya Jackson were a match to Sandy Williams; (4/26/06 transcript, p. 69)

d. That it was her expert opinion that the methods used by Cellmark Diagnostic Laboratory in this case are generally accepted in the scientific community; (4/26/06 transcript, p. 98)

e. That she routinely relied on results from Cellmark in performing her work in the Illinois State Police Crime Lab; (4/26/06 transcript, p. 99)

f. That she reviewed the data from Cellmark and made her own determination regarding their results; (4/26/06 transcript, p. 99) and

g. That she did not see any problem with either the chain of custody or with contamination of evidence regarding the testing done at Cellmark. (4/26/06 transcript, p. 100)

12. That the court erred in denying defense counsel's motion to exclude and strike the testimony of Sandra Lambatos with regard to opinions and conclusions based on testing done by Cellmark Diagnostic Laboratory where such testimony lacked the proper foundation and violated the defendant's Sixth Amendment right to confront the witnesses against him as stated in the United States Supreme Court case of *Crawford v. Washington,* 541 U.S. 36; 124 S. Ct. 1354; 158 L. Ed. 2d 177 (2004), and the Illinios [sic] case of *People v. Raney,* 324 Ill. App. 3d 703; 756 N.E.2d 338 (1st Dist. 2001) (4/26/06 transcript, p. 102-107)

13. That the court erred in sustaining the State's objection to defense counsel's question to Ms. Lambatos as to whether an error in Cellmark's results regarding the data for the E2 fraction of the vaginal swabs would mean that any matches made regarding that data would also be wrong.

14. That the court erred in sustaining the State's objection to defense counsel's question to Ms.

Lambatos as to whether she was aware of any instances of contamination or fraud by any analysts at Cellmark Diagnostic Laboratory.

15. That the court erred in allowing over defense objection, State's exhibits 25 and 26, which were shipping manifests regarding evidence shipped from the Illinois State Police Crime Lab to Cellmark Diagnostic Laboratory and back again, where those documents did not qualify as business records because they were prepared as pare [sic] of a criminal investigation and for the purpose of litigation.

WHEREFORE, for the various reasons urged before and during the trial, and every error as may appear from the official transcript of proceedings, defendant requests a New Trial.

Respectfully submitted,

EDWIN A. BURNETTE
Public Defender of Cook County

/s/ Sophia Atcherson
BY: SOPHIA ATCHERSON
Assistant Public Defender
Attorney #30295

STATE OF ILLINOIS)
) SS:
COUNTY OF COOK)

IN THE CIRCUIT COURT OF
COOK COUNTY, ILLINOIS
COUNTY DEPARTMENT – CRIMINAL DIVISION

PEOPLE OF THE STATE OF ILLINOIS, Plaintiff	)	
v.	)	No. 01 CR 10786
SANDY WILLIAMS, Defendant	)	

REPORT OF PROCEEDINGS had before the Honorable KENNETH J. WADAS, Judge of the Criminal Division, on the 18th day of August, 2006.

APPEARANCES:

HON. RICHARD A. DEVINE
State's Attorney of Cook County, by
MS. ANGELA PETRONE and
MR. ARUNAS BUNTINAS
Assistant State's Attorneys

on behalf of the People;

MR. EDWIN A. BURNETTE
Public Defender of Cook County, by
MS. SOPHIA ATCHERSON and
MR. BRIAN WALSH
Assistant Public Defenders

on behalf of the Defendant.

Renee M. Mason, CSR
Official Court Reporter
2650 S. California, Room 4C02
Chicago, Illinois 60608
(773) 869-6065
License No. 084-002064

* * *

[MMM3] MS. ATCHERSON: Judge, we rest on the written motions regarding the motions for new trial.

MS. PETRONE: The state would do likewise.

THE COURT: Any argument?

MS. ATCHERSON: No argument.

THE COURT: I'll stand on all my rulings and deny the motion for new trial.

* * *

IN THE CIRCUIT COURT OF COOK COUNTY

PEOPLE OF THE	) CASE NUMBER 01CR1078601
STATE OF ILLINOIS	) DATE OF BIRTH
V.	) [Date Of Birth Omitted]
SANDY WILLIAMS	) DATE OF ARREST 04/17/01
Defendant	IR NUMBER 0723909
	SID NUMBER 025162660

ORDER OF COMMITMENT AND SENTENCE
TO ILLINOIS DEPARTMENT OF CORRECTIONS

The above named defendant having been adjudged guilty of the offense(s) enumerated below is hereby sentenced to the Illinois Department of Corrections as follows:

Count	Statutory Citation	Offense	Sentence	Class
004	720-5/12-14(A)(3)	AGG CRIM SEX ASLT/ THREAT LIFE	YRS. 888 MOS. 00	X

and said sentence shall run concurrent with count(s) 006 ___ ___ ___

006	720-5/12-14(A)(3)	AGG CRIM SEX ASLT/ THREAT LIFE	YRS. 888 MOS. 00	X

and said sentence shall run concurrent with count(s) 004 ___ ___ ___

015	720-5/10-2(A)(3)	AGG KIDNAPING/INFLICT HARM	YRS. 060 MOS. 00	X

and said sentence shall run consecutive with count(s) 004 006 ___ ___

017 720-5/18-5 ____ AGGRAVATED ROBBERY YRS. 015 MOS. 00 1

and said sentence shall run concurrent with count(s) 004 006 015 ___

___ _____ _____ YRS. __ ___
MOS. __

and said sentence shall run (concurrent with) (consecutive to) the sentence imposed on:

On Count ___ defendant having been convicted of a class ___ offense is sentenced as a class x offender pursuant TO 730 ILCS 5/5-5-3(C)(8).

On Count 015 defendant is sentenced to an extended term pursuant to 730 ILCS 5/5-8-2.

The Court finds that the defendant is entitled to receive credit for time actually served in custody for a total credit of 1949 days as of the date of this order

IT IS FURTHER ORDERED that the above sentence(s) be concurrent with the sentence imposed in case number(s) _____
AND: consecutive to the sentence imposed under case number(s) _____ ___ ___ ___ ___

IT IS FURTHER ORDERED THAT COUNT 4 AND 6 CONCURRENT TO EACH OTHER. COUNT 15 CONSECUTIVE__ TO COUNTS 4 AND 6. COUNT 17 CONCURRENT TO COUNTS 4, 6, AND 5. O/C MITTIMUS TO__ ISSUE. _____

IT IS FURTHER ORDERED that the Clerk provide the Sheriff of Cook County with a copy of this Order and that the Sheriff take the defendant into

custody and deliver him/her to the Illinois Department of Corrections and that the Department take him/her into custody and confine him/her in a manner provided by law until the above sentence is fulfilled.

DATED AUGUST 18, 2006 ENTER: 08/18/06

CERTIFIED
BY G FOSTER /s/ Kenneth J. Wadas
DEPUTY JUDGE:
CLERK WADAS, KENNETH J.
1700

THIRD DIVISION
AUGUST 27, 2008

No. 1-06-3463

THE PEOPLE OF THE STATE OF ILLINOIS,	)	Appeal from the Circuit Court of Cook County.
Plaintiff-Appellee,	)	No. 01 CR 10786
v.	)	The Honorable Kenneth J. Wadas, Judge Presiding.
SANDY WILLIAMS,	)	
Defendant-Appellant.	)	

JUSTICE GREIMAN delivered the opinion of the court:

Following a bench trial that included inculpatory deoxyribonucleic acid (DNA) evidence, defendant, Sandy Williams, was convicted of two counts of aggravated criminal sexual assault, aggravated kidnaping and aggravated robbery. He was subsequently sentenced to two concurrent terms of natural life imprisonment for the aggravated criminal sexual assault counts; a consecutive term of 60 years' imprisonment for the aggravated kidnaping count; and a concurrent term of 15 years' imprisonment for the aggravated robbery count. On appeal, defendant contends that the trial court erred in admitting the inculpatory DNA evidence because sufficient foundation was not established for the forensic scientist's opinion testimony on the matter. Defendant additionally contends that admission of the forensic scientist's opinion testimony violated defendant's confrontation rights according to *Crawford v. Washington*, 541 U.S.

36, 158 L. Ed. 2d 177, 124 S. Ct. 1354 (2004). Defendant finally contends that the trial court erroneously ordered that his aggravated kidnaping sentence run consecutive to his sentence of natural life imprisonment for aggravated criminal sexual assault.

The evidence adduced at trial demonstrated that, on February 10, 2000, defendant grabbed the 22-year-old victim, L.J., as she was [sic] walked home from work, forced her into a car and repeatedly sexually assaulted her. Once finished, defendant took the victim's money and some of her personal belongings and fled. The victim immediately ran home and reported the incident.

The victim later went to the hospital, where she provided a blood sample and a vaginal swab for a sexual assault kit (kit). Doctor Nancy Schubert sealed the samples in the kit and placed it in a secured lock box in the emergency room. Early the next morning, Detective Michael Baker obtained the kit from the emergency room and inventoried it prior to sending the kit to the Illinois State Police crime lab (Crime Lab) for testing and analysis.

Prior to going to the hospital, the victim spoke to the police and described defendant as a black male, standing 5 feet 8 inches tall, wearing a black skullcap, black jacket and jeans and driving a beige station wagon. The police subsequently issued a "flash" message including that description. Pursuant to the "flash" message, two officers stopped an individual matching the perpetrator's description. The suspect,

James McChristine, agreed to accompany the officers to the hospital where the victim was being treated. The victim first viewed McChristine's driver's license and stated that there was potential that he was her attacker; however, she asked to view him in person. As a result, the victim viewed McChristine in the hospital parking lot and there was conflicting evidence presented as to whether the victim positively identified McChristine at that time. Notwithstanding, the victim again viewed McChristine at a police station thereafter and confirmed that McChristine was not her offender.

Defendant was arrested on August 3, 2000, on an unrelated offense. While in custody, defendant was required to provide a blood sample for the police DNA database. John Duffy, an investigator for the State's Attorney's office, placed defendant's blood sample into a sealed envelope. Duffy then inventoried the sample and sent it to the Crime Lab for testing and analysis. In March 2001, a DNA "hit" was generated in the database linking defendant to the underlying offenses. As a result, on April 16, 2001, L.J. viewed a lineup and positively identified defendant as her attacker. Defendant was subsequently charged with the instant offenses.

Karen Kooi, a forensic scientist at the Crime Lab, testified that she received defendant's sealed blood sample on August 24, 2000, and performed a short tandem repeat (STR) analysis on a portion of the sample. Kooi obtained a DNA profile from the sample and entered it into the Crime Lab database, which is

used to compare DNA profiles to blood samples from unsolved crimes. While extracting defendant's DNA profile from his blood sample, Kooi acted in accordance with the nationwide standards for DNA analysis.

Brian Hapack, a forensic scientist at the Crime Lab, testified that he received the victim's sealed kit on February 15, 2000, and performed two tests on the vaginal swabs in order to detect the presence of semen. First, Hapack conducted an acid phosphastase test and received the highest indication for semen, four plus positive. Next, Hapack conducted an Abacard test and again received a positive result for the presence of semen with two pink lines. Hapack guaranteed the accuracy of his results by working in a clean environment free from contamination and by ensuring that the tests functioned properly. Hapack did not perform any tests on the victim's blood sample. Thereafter, Hapack sealed both the vaginal swabs and the blood sample in envelopes and placed them in a secure freezer in order to secure the evidence for future testing, as was a common practice in the scientific community.

Sandra Lambatos, a forensic scientist at the Crime Lab, testified, as an expert in forensic biology and forensic DNA analysis, that a procedure known as polymerase chain reaction (PCR) enables forensic examiners to extract a male DNA profile from semen, which could then be compared to the DNA from a suspect's blood in order to garner a statistical probability that the DNA matched.

In particular to the instant case, Lambatos testified that the victim's kit was sent, in a sealed condition, to Cellmark Diagnostic Laboratory (Cellmark), an accredited crime lab in Maryland, for further analysis. According to Lambatos, at the time, the Crime Lab commonly sent evidence samples to Cellmark to expedite analysis. The samples were sent via Federal Express, which was a generally accepted manner of transporting DNA evidence in the scientific community. A Crime Lab shipping manifest indicated that the victim's kit was shipped to Cellmark on November 28, 2000, in a sealed condition; was received by Cellmark on November 29, 2000; and was returned to the Crime Lab on April 3, 2001. According to Lambatos, the Crime Lab shipping manifest was generated in the ordinary course of business and was kept in a secure area of the lab.

Lambatos further testified that she used the comparison method described earlier to conclude that the semen obtained from the victim's vaginal swabs, as identified by Hapack, and the male DNA profile produced from defendant's blood sample, as identified by Kooi, were a match. The probability of the match was 1 in 8.7 quadrillion unrelated black individuals, 1 in 390 quadrillion unrelated white individuals and 1 in 109 quadrillion unrelated Hispanic individuals.

On cross-examination, Lambatos admitted that she was unaware of what happened to the Federal Express package containing the victim's kit when it arrived at Cellmark. Lambatos further admitted that she did not examine or perform any physical testing

of the samples herself; rather, she based her opinion, in part, on the results generated by Cellmark. In particular, Cellmark provided a DNA profile for the semen recovered from the victim's vaginal swabs using electropherograms and allele charts. Although she did not personally observe Cellmark perform the tests on the evidence at issue, Lambatos averred that, because Cellmark was an accredited laboratory, it was required to meet "certain guidelines to perform DNA analysis for the Illinois State Police and so all those calibrations and internal proficiencies and controls [of the equipment used] would have had to have been in place for them to perform the DNA analysis." Lambatos, however, admitted that Cellmark had different procedures and standards for results than the Crime Lab. Nevertheless, Lambatos maintained that Cellmark analysts generally performed proficiency tests that she personally developed.

According to Lambatos, Cellmark's electropherogram tests revealed a mixture of DNA profiles; therefore, Lambatos opined that Cellmark subtracted the victim's profile, as generated from the vaginal swab, from the sample in order to deduce the male's DNA profile, namely, defendant's. Lambatos admitted that Cellmark's results demonstrated a minor presence for unaccounted genetic material, which she described as "white noise." Lambatos then entered the retrieved male DNA profile into the Crime Lab database to search for a match. Lambatos admitted that it was possible to have a degraded evidence sample; however, she did not observe any evidence degradation

in the instant case. According to Lambatos, she reviewed Cellmark's results; made her own interpretations; and formed her own opinion of the evidence.

On redirect examination, Lambatos clarified that the results demonstrating a mixture only produced DNA profiles for the victim and defendant. In her expert opinion, Lambatos stated that Cellmark's testing and analysis methods were generally accepted in the scientific community. Lambatos further testified that she routinely relied on results from Cellmark and she did not observe any problems with the chain of custody or contamination of the evidence at issue.

At the conclusion of Lambatos' testimony, defense counsel moved to exclude that portion of her testimony related to Cellmark's testing based upon *Crawford* and a lack of established foundation. In particular, defense counsel argued that the evidence presented lacked a suitable foundation in terms of the chain of custody; who handled the evidence; how the equipment was calibrated; how the tests were run; and what procedures were followed. Following the parties' arguments, the trial court concluded that *Crawford* was inapplicable. In so ruling, the court stated:

> "I've read a lot of memorandums of law about *Crawford*. The premier memorandum is written by Appellate [C]ourt [J]ustice Quinn. I've read his memorandum, his updated memorandum which he updates every year. I don't think this is a *Crawford* scenario, and I agree with the State that the evidence is –

> the issue is, you know, what weight do you give the test, not do you exclude it and accordingly your motion to exclude or strike the testimony of the last witness or opinions based on her own independent testing of the data received from Cel[l]mark[1] will be denied."

The trial court ultimately found defendant guilty as previously described. The court subsequently denied defendant's motion for a new trial and proceeded to sentencing. In aggravation, the State presented the testimony of G.M., an individual whom defendant kidnaped, repeatedly raped and robbed in 1984. Defendant's criminal record further demonstrated that he was paroled for those offenses, including aggravated criminal sexual assault, in February 1997 and was discharged from parole on February 4, 2000, less than a week before the instant offense. Following additional evidence in aggravation and mitigation, the court sentenced defendant to two concurrent terms of natural life imprisonment for the aggravated criminal sexual assault counts; a consecutive term of 60 years' imprisonment for the aggravated kidnaping count; and a concurrent term of 15 years' imprisonment for the aggravated robbery count. Thereafter, the court denied defendant's motion to reconsider that sentence. This timely appeal followed.

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[1] According to the parties, the transcript reflects an improper spelling of the laboratory.

Defendant first contends that the trial court erred in admitting the DNA evidence produced by Cellmark where a sufficient foundation was not established to demonstrate that the equipment used was adequately calibrated and properly functioning, and where the State failed to establish a sufficient chain of evidence based upon Cellmark's handling of the evidence.

At the outset, we note that neither argument was waived for purposes of our review. Despite the State's insistence that defendant expressly waived review of his chain of custody argument, our review of the record reveals that defense counsel included the issue in his oral motion to exclude Lambatos' testimony and in his posttrial motion as well. *See People v. Enoch*, 122 Ill. 2d 176, 186 (1988). Accordingly, we review defendant's arguments.

The admission of Lambatos' expert testimony was within the trial court's sound discretion; therefore, we will not overturn that decision absent an abuse of discretion. *People v. Eyler*, 133 Ill. 2d 173, 211 (1989).

In *Wilson v. Clark*, 84 Ill. 2d 186 (1981), our supreme court adopted Rule 703 of the Federal Rules of Evidence, holding that an expert may offer an opinion based upon facts not in evidence if those facts are "of a type reasonably relied upon by experts in the particular field." *People v. Raney*, 324 Ill. App. 3d 703, 706 (2001), citing *Wilson*, 84 Ill. 2d at 193. Moreover, where expert testimony is based upon an electronic

or mechanical device, the expert must provide some foundational proof that the device was functioning properly at the time it was used. *Raney*, 324 Ill. App. 3d at 710-11; *People v. Bynum*, 257 Ill. App. 3d 502, 514 (1994). Notwithstanding, in a post-*Bynum* and post-*Raney* decision, this court approvingly cited *People v. Hill*, 169 Ill. App. 3d 901 (1988), for the proposition that a chemical analyst need not personally determine the reliability of the instrument being used to perform the evaluation at issue. *People v. Rucker*, 346 Ill. App. 3d 873, 890 (2003), citing *Hill*, 169 Ill. App. 3d at 911. Thereafter, it is the defendant's responsibility to challenge the sufficiency or reliability of the basis for the expert's opinion during cross-examination, and the determination of the weight to be given that expert's opinion is left to the finder of fact. *Adams v. Family Planning Associates Medical Group, Inc.*, 315 Ill. App. 3d 533, 550 (2000), citing *People v. Lipscomb*, 215 Ill. App. 3d 413, 435 (1991).

In the case at bar, Lambatos was qualified, without objection, as an expert in forensic biology and forensic DNA analysis and concluded, based upon her expertise, Kooi's analysis of defendant's blood, Hapack's analysis of the semen found on the victim's vaginal swabs and Cellmark's report detailing the DNA profile generated from the semen on the victim's vaginal swabs, that the semen belonged to defendant. Although she admittedly did not perform the actual tests on the evidence, Lambatos familiarly testified regarding the PCR procedure, which was used to

extract the male DNA profile from the semen found on the vaginal swabs. Moreover, Lambatos repeatedly averred that Cellmark was an accredited laboratory and therefore was required to follow specified guidelines in order to perform DNA analysis. Lambatos additionally provided that Cellmark's testing and analysis methods were generally accepted in the scientific community, so much so that she routinely relied on Cellmark's facility. Accordingly, despite Lambatos' inability to speak to the precise conditions of Cellmark's equipment and testing of the instant samples, we find that she provided a sufficient foundation upon which to partially base her assessment and conclusion. See *People v. Sutherland*, 223 Ill. 2d 187, (2006) (where the supreme court dismissed the same argument because the defendant did not mount a challenge against the facts relied upon by the expert as not typically relied upon in the relevant field).

Defendant relies heavily on *Raney* to support his argument that the foundation was inadequate because Lambatos could not testify that Cellmark's equipment was calibrated and working properly. *Raney*, 324 Ill. App. 3d at 710-11. The *Raney* court, however, recognized that it may not be feasible to require that an expert personally test the instrument relied upon for making the relevant determination. *Raney*, 324 Ill. App. 3d at 710. Moreover, the instant case is distinguishable from *Raney* in that Lambatos provided "some foundational proof as to the fact that the instrument was functioning properly at the time

it was used" *(Raney,* 324 Ill. App. 3d at 710), where she maintained that Cellmark's testing necessarily met the threshold of proper DNA analysis. In comparison, the expert in *Raney* did not provide any testimony that the machine used was calibrated and working properly or how she knew its results were accurate. *Raney,* 324 Ill. App. 3d at 710. Consequently, defendant's argument is based upon pure speculation that the equipment may not have been working properly, and such speculation is best tested during cross-examination. See *Adams,* 315 Ill. App. 3d at 550. The record reveals that defense counsel thoroughly cross-examined Lambatos on the basis of her opinion. Accordingly, the issue of Lambatos' reliance on Cellmark's report went to the weight of her opinion and not its admissibility. The trial court assessed the weight of Lambatos' testimony and clearly found it convincing.

We next turn to defendant's argument regarding the chain of custody of the victim's kit. Specifically, defendant argues that the State failed to demonstrate a sufficient chain of evidence because it did not offer any evidence regarding whether Cellmark "employed protective measures to guard against contamination of the samples."

Where physical evidence is not readily identifiable or may be susceptible to tampering, contamination or exchange, the State is required to establish a chain of custody "that is sufficiently complete to make it improbable that the evidence has been subject to tampering or accidental substitution." *People v.*

Woods, 214 Ill. 2d 455, 467 (2005). Our supreme court further instructed:

> "Unless the defendant produces evidence of actual tampering, substitution or contamination, a sufficiently complete chain of custody does not require that every person in the chain testify, nor must the State exclude every possibility of tampering or contamination; the State must demonstrate, however, that reasonable measures were employed to protect the evidence from the time that it was seized and that it was unlikely that the evidence has been altered." *Woods*, 214 Ill. 2d at 467.

In those circumstances, any deficiencies in the chain of custody are considered against the weight of the evidence and not its admissibility. *Woods*, 214 Ill. 2d at 467.

In the case at bar, defendant does not take issue with the chain of custody of the victim's kit prior to its transport to Cellmark; therefore, we focus only on that portion of the chain. Lambatos testified that the Crime Lab kept a shipping manifest in the ordinary course of business in a secure area which detailed the arrival and departure of specified evidence samples. In regard to the relevant evidence here, the shipping manifest reflected that the victim's kit was sent to Cellmark on November 28, 2000, in a sealed condition via Federal Express, a generally accepted manner of transporting DNA evidence within the scientific community; was received by Cellmark the next day;

and was returned to the Crime Lab on April 3, 2001. Lambatos was unaware of the express condition of the samples when they arrived at Cellmark; however, based on her expertise, Lambatos testified that the sample did not show any signs of degradation. We are not persuaded by defendant's argument that the chain of custody was inadequate because no Cellmark analyst testified regarding the condition and handling of the samples, where Lambatos testified regarding the reasonable measures employed to safeguard the evidence. See *Woods*, 214 Ill. 2d at 467 (every person in the chain of custody need not testify). Accordingly, the State established a *prima facie* demonstration that the chain of custody was sufficient.

Defendant briefly argues that the State could not establish a chain of custody based upon the shipping manifests because they were inadmissible business records produced for purposes of litigation in violation of section 115-5(c)(2) of the Code of Criminal Procedure of 1963 (Code) (725 ILCS 5/115-5(c)(2) (West 2006)). Defendant, however, has waived review of this argument where he barely mentioned it and did not cite to any relevant authority outside the statute, in violation of Supreme Court Rule 341(h)(7) (210 Ill. 2d R. 341(h)(7)). "A reviewing court is entitled to have issues clearly defined with pertinent authority cited and cohesive arguments presented [citation], and it is not a repository into which an appellant may foist the burden of argument and research [citation]; it is neither the function nor the obligation of this court to

act as an advocate or search the record for error." *Obert v. Saville*, 253 Ill. App. 3d 677, 682 (1993).

Defendant further argues that he sufficiently rebutted the State's *prima facie* case because he presented evidence of contamination *vis-a-vis* Cellmark's reported mixture of DNA profiles and presence of unaccountable genetic material. We disagree. Lambatos clearly testified that the mixture at issue was a combination of only defendant's and the victim's DNA profiles. Moreover, in regard to the unaccounted-for genetic material, Lambatos categorically designated it "white noise." Consequently, we do not find that defendant presented sufficient evidence to suggest that the samples were tampered with or contaminated. Accordingly, Lambatos' testimony regarding Cellmark's testing and analysis was properly admitted on the basis of the State's sufficient chain of custody.

Defendant next contends that the results of Cellmark's testing and analysis were testimonial in nature and therefore Lambatos' expert testimony in reference thereto violated defendant's constitutional right to confrontation, where no Cellmark representative was presented for cross-examination. The State responds that Lambatos' testimony regarding Cellmark's analysis was not testimonial hearsay, and thus, defendant's confrontation rights were neither implicated nor violated.

In *People v. Spicer*, 379 Ill. App. 3d 441 (2007), this court recently provided that, where a defendant claims that a trial court admitted a hearsay statement in

violation of the confrontation clause, we defer on review to the trial court's evidentiary ruling unless that discretion has been frustrated by an erroneous ruling of law. *Spicer,* 379 Ill. App. 3d at 451.

Pursuant to *Crawford,* "[w]here testimonial statements are at issue, the only indicum of reliability sufficient to satisfy constitutional demands is the one the Constitution actually proscribes: confrontation." *Crawford,* 541 U.S. at 68-69, 158 L. Ed. 2d at 203, 124 S. Ct. at 1374. Hence, since no Cellmark representative was available for cross-examination, the purported question before us is whether Cellmark's report constituted improper testimonial evidence. *Crawford,* however, reiterated that "the [Confrontation] Clause also does not bar the use of testimonial statements for purposes other than establishing the truth of the matter asserted. See *Tennessee v. Street,* 471 U.S. 409, 414, 85 L. Ed. 2d 425, 431, 105 S. Ct. 2078, 2081-82 (1985)." *Crawford,* 541 U.S. at 59 n.9, 158 L. Ed. 2d at 197, 124 S. Ct. at 1370. As a result, we must initially determine whether Lambatos' reliance on the Cellmark results was hearsay. See *Spicer,* 379 Ill. App. 3d at 449 ("hearsay analysis and sixth amendment analysis are completely different").

Hearsay generally prohibits the introduction of an out-of-court statement offered to prove the truth of the matter asserted therein. *Spicer,* 379 Ill. App. 3d at 449. However, underlying facts and data may be disclosed by an expert, not for the truth of the matter asserted, but for the purpose of explaining the basis of his opinion. *People v. Nieves,* 193 Ill. 2d 513, 528

(2000), citing *People v. Pasch*, 152 Ill. 2d 133, 176 (1992); *People v. Almighty Four Hundred*, 287 Ill. App. 3d 123, 132 (1997). Moreover, "[i]t is well established that an expert may testify about the findings and conclusions of a nontestifying expert that he used in forming his opinions." *People v. Jones*, 374 Ill. App. 3d 566, 579-80 (2007).

Defendant argues that Cellmark's report was inadmissible hearsay because it was necessarily offered for the truth of the matter asserted where Lambatos could not conclude that defendant's semen was present on the victim's vaginal swabs absent the DNA profile generated by Cellmark. We disagree. Cellmark's report was not offered for the truth of the matter asserted; rather, it was offered to provide a basis for Lambatos' opinion. Lambatos clearly testified that she performed her own evaluation of the data, which included Kooi's findings, Hapack's findings and Cellmark's report, prior to forming her opinion.

In *Almighty Four Hundred*, this court provided:

> "[a]n expert witness may base his or her opinion on information that has not been admitted into evidence so long as that information is reliable and is of a type reasonably relied upon by experts in that field. Rule 703 did not, however, create an exception to the hearsay rule. [Citation]. The underlying facts or data upon which an expert in a particular field is found to have reasonably relied are not admitted for their truth. [Citation].

> Rather, these facts are admitted for the limited purpose of explaining the basis for the expert witness' opinion. [Citation]. Furthermore, it is for the circuit court, in the exercise of its discretion, to determine whether the underlying facts or data upon which an expert bases an opinion are of a type reasonably relied upon by experts in the particular field." *Almighty Four Hundred,* 287 Ill. App. 3d at 132.

Similar to the facts of *Lipscomb,* Lambatos relied on Cellmark's report, which included data of the type generally relied upon by experts in the field. *Lipscomb,* 215 Ill. App. 3d at 435 (the expert's opinion was properly admitted even though it was based on a final report which included data generated by individuals that did not testify).

Moreover, defense counsel vigorously cross-examined Lambatos regarding her opinion and was free to call another expert to dispute that opinion. It was, therefore, the trial court's duty to determine the weight of Lambatos' testimony. *Adams,* 315 Ill. App. 3d at 550. Furthermore, the record does not affirmatively show that the instant trial judge considered anything but competent evidence. *People v. Schmitt,* 131 Ill. 2d 128, 138-39 (1989) (a trial judge is presumed to consider only competent evidence unless the record affirmatively demonstrates otherwise). On the contrary, defendant objected to Lambatos' testimony and the Honorable Kenneth Wadas entertained arguments on the matter, yet determined that the opinion based on Cellmark's reports was admissible.

Simply put, the report was not introduced to prove the truth of Cellmark's results consequently the Confrontation Clause was not violated. *Crawford*, 541 U.S. at 59 n.9, 158 L. Ed. 2d at 197, 124 S. Ct. at 1370. Further, because we have already determined that it was reasonable for Lambatos to rely on Cellmark's report, we find that Lambatos' testimony regarding the Cellmark report was properly admitted to assist in explaining the basis of her ultimate opinion. See *Nieves*, 193 Ill. 2d at 528.

Overall, defendant essentially requests that we require each and every individual involved in the testing and analysis of DNA to testify at trial. For obvious reasons in the abstract and for those provided in the case at bar, we decline to issue such a ruling.

Defendant finally contends that the trial court erred in sentencing him to a term of imprisonment consecutive to his term of natural life. The State responds that the plain language of section 5-8-4 of the Unified Code of Corrections (Code of Corrections) (730 ILCS 5/5-8-4 (West 2006)) and section 12-14 of the Criminal Code of 1961 (Criminal Code) (720 ILCS 5/12-14 (West 2006)) require that defendant's prison term for aggravated kidnaping run consecutive to his term of natural life for aggravated criminal sexual assault.

Although the imposition of a sentence is within a trial court's discretion, we review the propriety of defendant's sentence *de novo* because it involves a

question of law.[2] *People v. Chaney*, 379 Ill. App. 3d 524, 527 (2008).

Section 5-8-4 of the Code of Corrections provides that a "court shall impose a consecutive sentence" if a defendant was convicted of a violation of section 12-14 of the Criminal Code. 730 ILCS 5/5-8-4(a)(ii) (West 2006). Moreover, pursuant to section 12-14(d)(2) of the Criminal Code, an individual, like the instant defendant, who has been convicted of aggravated criminal sexual assault after having been previously convicted of aggravated criminal sexual assault "shall be sentenced to a term of natural life imprisonment." 720 ILCS 5/12-14(d)(2) (West 2006).

In *People v. Dixon*, 366 Ill. App. 3d 848 (2006), this court resolved the question before us and in *People v. Spears*, 371 Ill. App. 3d 1000 (2007), this third division approvingly cited and relied on *Dixon* to resolve the same issue. Following the supreme court's logic in *People v. Palmer*, 218 Ill. 2d 148 (2006), that, under the principles of natural law and within the plain meaning of the consecutive sentencing statute, only one natural life sentence may be served, we concluded that a term of years could not be served consecutive to a term of natural life because a defendant is only capable of serving one natural life sentence. *Spears*, 371 Ill. App. 3d at 1008; *Dixon*, 366 Ill. App. 3d at 856, citing *Palmer*, 218 Ill. 2d at 164.

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[2] We note that neither party provided the proper standard of review for this issue.

"His natural life sentence without parole means that he will remain in prison for the remainder of his life and at the conclusion of this sentence, his life is over." *Spears*, 371 Ill. App. 3d at 1008. Consequently, the instant defendant, like that in *Spears*, cannot serve a 60-year term at the conclusion of his term of natural life. Accordingly, pursuant to Supreme Court Rule 615(b)(4) (134 Ill. 2d R. 615(b)(4)), we vacate that portion of the trial court's order sentencing defendant to consecutive terms of natural life and 60 years' imprisonment and modify his sentence to reflect concurrent terms.

Based on the foregoing, we affirm the judgment of the circuit court of Cook County in relation to defendant's convictions. We vacate that portion of the circuit court's order imposing consecutive sentences for aggravated criminal sexual assault and aggravated kidnaping, and instead modify defendant's sentence to impose concurrent sentences for those convictions.

Affirmed in part and vacated in part; sentence modified.

QUINN, P.J., concurs.

CUNNINGHAM, J., dissents.

JUSTICE CUNNINGHAM dissenting:

Because I believe the complete failure to lay a sufficient foundation should have barred a key State witness from presenting critical DNA testimony, I must respectfully dissent.

This analysis requires some clarification of the facts of the case. The attack on the victim occurred on the night of February 2, 2000. A man grabbed the victim from behind, forced her into a beige station wagon, robbed her, sexually assaulted her, and then pushed her out of the car. That same evening the police stopped a man in a car near the crime scene who matched the victim's description of her assailant. According to police testimony, this man voluntarily accompanied them to the hospital where the victim was being treated. When shown the man's driver's license photograph, the victim said he looked like her assailant, but she told the police officer that she wanted to see the man in person. A police officer took the victim to the hospital parking lot where the man was being held. That police officer testified at trial that when the victim observed this man, she positively identified him as her attacker. The police officer's testimony was contradicted by the victim, who claimed that in the hospital parking lot she first saw the man sitting in a police car, and she had some doubts about whether he was her assailant. The police then took the man out of the car and she told them he was not her assailant. Although the victim claimed that she told the police officer that the man was not her assailant, nonetheless, it is undisputed

that the police subsequently took her to the police station to look at the man again, at which time she said he was not her assailant. No DNA material was taken from this man. *Fourteen months passed before the victim first identified another man, the defendant Williams, in a lineup, as her assailant.* She had never seen the defendant before she was attacked.

The eyewitness testimony of the victim, if believed by the trier of fact without additional bolstering evidence, may meet the State's burden of proof of the defendant's guilt beyond a reasonable doubt. *People v. Bannister,* 378 Ill. App. 3d 19, 39, 880 N.E.2d 607, 625 (2007); see *People v. Smith,* 185 Ill. 2d 532, 545, 708 N.E.2d 365, 371 (2007) (stating this proposition of law, but reversing the conviction outright because of serious impeachment of the eyewitness which resulted in the State failing to meet its burden of proof). In this case the testimony of the victim, although impeached by her initial contradictory identification of another man as her assailant, could have been sufficient evidence of the defendant's guilt. But it is clear that the State's strongest evidence, which greatly bolstered the victim's testimony, was the testimony of the Illinois State Police Crime Lab's forensic scientist, Sandra Lambatos.

Lambatos testified that the DNA in vaginal swabs of semen recovered from the victim matched the defendant's DNA. She described the odds of this match occurring as 1 in 390 quadrillion for white people, 1 in 8.7 quadrillion for black people and 1 in 109 quadrillion for Hispanic people. If valid, this is

devastating evidence whether it is heard by a jury or a judge. The problem is that this testimony should never have been admitted because the State never established a proper foundation for its admission.

This court has repeatedly set out the foundation required before an expert may give his or her opinion based upon machine-generated results which are not in evidence. The State must establish a foundation which includes some evidence that the machine producing those results was functioning properly when it was used for testing. *People v. Raney*, 324 Ill. App. 3d 703, 709-11, 756 N.E.2d 338, 343-45 (2001); *People v. Bynum*, 257 Ill. App. 3d 502, 513-14, 629 N.E.2d 724, 732-34 (1994). The defendant in *Raney* was convicted of possession of cocaine with intent to deliver. A State forensic scientist from the Illinois State Police Crime Lab (Crime Lab) testified that she had used a gas chromatography mass spectrometer (GCMS) to determine that substances recovered from the defendant were cocaine. The witness testified that the results of GCMS testing were generally relied upon by experts in her field and that the testing she utilized was generally accepted in the scientific community. But she failed to provide any evidence that the GCMS she used was operating properly. Nor did she testify that she had done any testing to verify its accuracy or to determine that it was in good operating condition. *Raney*, 324 Ill. App. 3d at 707-09, 756 N.E.2d at 342-44. Raney had preserved this issue by objecting to the witness' qualification as an expert, and by moving for a

directed finding based upon a lack of foundation for this evidence. Because there was no competent evidence that Raney was in possession of illegal drugs, we reversed his conviction outright for lack of sufficiency of the evidence. We first set out this standard in *Bynum*, holding that an insufficient foundation was laid for the opinion of an expert witness concerning the nature of drugs recovered from the defendant because the State's expert did not testify that the GCMS was generally relied upon by experts in the field. The expert also failed to testify regarding how the machine was calibrated or how she knew the results of this analysis were correct. *Bynum*, 257 Ill. App. 3d at 513-14, 629 N.E.2d at 732. However we then found this issue to have been waived by the defendant because he did not object to it at trial. *Bynum*, 257 Ill. App. 3d at 514-15, 629 N.E.2d at 732-34.

As the majority notes, in the case before us there is no question of waiver or forfeiture. The defendant properly preserved these issues by contemporaneous objection at trial and in his motion for a new trial. Accordingly, the holding of *Raney* is directly applicable to this case. Over the defendant's objection, forensic scientist Sandra Lambatos was permitted to testify that the defendant's DNA matched the vaginal swabs taken from the victim and that the odds against this occurring randomly were astronomical. But the foundation testimony in this case was even weaker than that in *Raney*. Unlike the testifying scientist in *Raney*, Lambatos did not perform or even

observe the critical procedure which was allegedly used to isolate the defendant's DNA. In fact Lambatos had no knowledge of whether the machine used in the testing was functioning and whether it was accurately calibrated, or anything else about it. Neither did she personally know anything about *any* of the procedures used in the laboratory where the testing was done. The DNA data identified as the defendant's which was provided to Lambatos by the Cellmark Laboratory (Cellmark) was taken from the vaginal swabs of the victim. This sample was sent to Cellmark, an out-of-state laboratory in Maryland. Once it was mailed there, Lambatos knew nothing of how the material was handled or tested. She knew only that she subsequently received test results back from Cellmark. She merely matched the defendant's DNA as provided to her by Cellmark to the DNA later recovered from the defendant. As the State conceded in oral argument before this court, Lambatos could not have reached her conclusion without relying on the tests performed by technicians at Cellmark.

Lambatos did not observe the tests done by Cellmark, nor could she state that the tests were done in accordance with established protocols or accurate calibrations. She could only state that as an accredited laboratory, Cellmark was required to meet certain guidelines. She obviously could not testify that these guidelines were followed in this particular case. She also admitted that genetic material other than that of the defendant or the victim had been found in the tested material at Cellmark, although

she dismissed this as "background noise." Like the expert witness in *Raney*, Lambatos did not testify regarding whether the test upon which her opinion was based had been properly performed, with proper calibrations and safeguards. Again like the witness in *Raney*, she did testify that the type of procedure used by Cellmark was generally accepted in the scientific community, but this failed to demonstrate that the testing procedure in this particular case was properly performed.

These are not idle concerns. DNA evidence is powerful because it always appears to be based on pure science. It can convict the guilty or free the innocent. The importance of DNA evidence has been highlighted in society at large. Courts have been known to take judicial notice that improperly performed DNA tests have resulted in wrongful convictions. In *Brown v. Farwell*, 525 F.2d 787, 796-97 (9th Cir. 2008), the district court's decision granting the defendant's *habeas corpus* petition was affirmed because the defendant presented expert testimony establishing that the State's DNA expert at trial had grossly exaggerated the odds that the defendant was the assailant. In Houston, Texas, the police crime laboratory temporarily shut down its DNA laboratory and faced the prospect of retesting DNA samples in thousands of criminal cases because of a State audit which revealed misinterpreted data, poorly trained workers, shoddy records, and a leaky roof which contaminated evidence. A. Liptak and R. Blumenthal, *New Doubt Cast on Crime Testing in Houston Cases*,

New York Times, August 5, 2004. It was reported that at least one defendant was wrongly convicted of rape and served four years in prison before he was exonerated and released. In addition, in a preliminary review and retesting of 360 DNA cases, experts were unable to confirm the original results in 18 cases. Further, many criminal convictions have been reversed and remanded for new trials because of improper DNA evidence. Annotation, *Admissibility of DNA Identification Evidence*, 84 ALR 4th 313, Section 10 (1991).

In this case, the record clearly establishes that an insufficient foundation was presented concerning whether proper procedures and protocols were followed in testing by Cellmark, located in Maryland. The majority refers to Lambatos' generalized testimony concerning the sufficiency of the protocols, testing, and methods of analysis ordinarily followed by Cellmark. The majority also refers to Lambatos' testimony that Cellmark's methods were generally accepted in the scientific community. But none of this testimony applied to the testing done by Cellmark in this case. Lambatos had no knowledge of what occurred at Cellmark with respect to the testing in this case. Indeed there was no evidence that she had any personal knowledge regarding how Cellmark and its staff conducted their work. The cases cited establish that absent a proper foundation, it was error to permit the expert testimony of forensic scientist Lambatos concerning a match between the

defendant's DNA and the DNA found in the samples taken from the victim.

In light of the case law cited, the majority equivocates. It spends a great deal of time in an exhaustive summary of the DNA testimony presented at trial. But the fundamental fact that cannot be avoided is that the State's expert, Lambatos, had to rely on Cellmark technicians' testing which allegedly identified the defendant's DNA in the victim's sample. As previously noted, in oral argument the State conceded that without the DNA profile produced at Cellmark, Lambatos could not have testified to a match between the defendant's DNA and that found in the material taken from the victim. Lambatos simply compared that DNA profile to one obtained from the defendant's blood and found a match.

Faced with case law concerning the necessary foundation for evidence derived from scientific testing, which the majority appears to admit continues to be good law in this State, the majority cites to numerous inapplicable cases. They are all inapplicable for a number of reasons. For example, there was a determination that the defendant had waived the issue of the sufficiency of a foundation for evidence of scientific testing (*People v. Sutherland*, 223 Ill. 2d 187, 237, 860 N.E.2d 178, 279 (2006)); the defense stipulated to the validity of the testing procedure (*People v. Rucker*, 346 Ill. App. 3d 873, 892-94, 803 N.E.2d 31, 46-47 (2003)); the expert who performed the testing actually testified in court concerning the validity of that test (*People v. Hill*, 169 Ill. App. 3d

901, 910-11, 524 N.E.2d 604, 610-11 (1988)). In the case before us there was no forfeiture or waiver, no stipulation, and no testimony by the technicians who performed the critical test.

I also note that there was insufficient chain-of-custody evidence presented by the State concerning the materials tested by Cellmark. The evidence established that materials were sent by Federal Express from the Illinois Crime Lab to Cellmark in Maryland along with samples from twenty other cases. It was received in Maryland on November 29, 2000. The evidence also established that the Crime Lab received test results back from Cellmark by Federal Express on April 3, 2001. But no witness could account for the manner in which this material was kept or treated at Cellmark for the 126 days that it was there. In that period there were many ways in which the materials could have been compromised. Under cross-examination by the defense, forensic scientist Karen Abbinanti, who performed the DNA testing on the defendant's blood at the Illinois Crime Lab, provided numerous examples of possible sources of contamination. Abbinanti testified that a sample could be contaminated if someone sneezed on it or dripped sweat on it. There could be cross-contamination from other samples. To guard against these possibilities, she said that she used a clean technique. Lab personnel wore lab coats, masks and gloves. Before examining material, they would clean their area with a ten percent bleach solution and in between examinations would clean their instruments with the same solution. Prior

to performing her testing, Abbinanti also checked the calibration of the instrument she used. The record is absolutely silent as to whether any of these precautions were taken at Cellmark in this case, or whether any contaminating incidents occurred. We do know, according to forensic scientist Lambatos, that the sample she received back from Cellmark also contained genetic material not consistent with that of either the victim or the defendant. Lambatos testified that she did not believe it came from a third person, but was merely "background noise" generated by the sensitive testing. Nonetheless we have genetic material tested by technicians yielding so called "background noise" yet those technicians did not testify as to their methods, safety procedures or calibration of instruments. We have genetic material that may have been contaminated, and we have the trial court's refusal to allow the defense to obtain the testimony of the technicians who actually performed the testing at Cellmark.

As cited by the majority, the law is that physical evidence which is susceptible to tampering or contamination requires the State to establish a chain of custody that makes it improbable that such tampering or contamination occurred. *People v. Woods*, 214 Ill. 2d 455, 466-67, 828 N.E.2d 247, 255 (2005). Not every person who handled the evidence must testify, but the State must establish that reasonable measures were used to protect the evidence from the time it was obtained. Clearly this burden was not met by the State in this case. There is absolutely no

testimony or evidence concerning the manner in which the sample was treated or tested during the 126 days that it was under the control of Cellmark. Adhering to proper foundational procedure is critical when DNA evidence is presented. Such evidence is powerfully persuasive. In a case like this, where the identification testimony is weak, special care is necessary to ensure that all aspects of the required foundational process have been followed.

Finally, the majority suggests that it may not have been "feasible" to require the expert who testified, Lambatos, to personally test the instrument relied upon. This presents a false choice and undermines the importance of established law on this issue. The issue is whether the *technicians who performed the test* were required to testify. This was a case in which a conviction would necessarily result in a sentence of life in prison without the possibility of parole. Under these circumstance, the importance of adhering to the tenets of well settled law cannot be overstated. In this bench trial, I can fathom no legitimate reason for the trial court to refuse to allow the defendant to avail himself of this fundamental procedural safeguard. The court could have postponed the remainder of the trial to allow the defense to subpoena the Cellmark technicians who performed the DNA test. Given what is at stake, slight inconvenience to the State or the trial court should not be the overriding factor. The failure to do this, in my judgment has resulted in a grievous error requiring reversal and remand for a new trial. In so finding, I

must also comment on the State's effort to muddy the waters by including in their brief, copious, irrelevant facts concerning other crimes committed by the defendant. But, the only reason to include those details would have related to an issue regarding sentencing. The only sentencing issue in this case, the validity of a term sentence imposed consecutive to a life sentence, required no detailed description of the defendant's prior offenses.

For all these reasons, I would reverse and remand for a new trial.

IN THE APPELLATE COURT,
STATE OF ILLINOIS
FIRST DISTRICT

THE PEOPLE OF THE STATE OF ILLINOIS,	)	
Plaintiff-Appellee,	)	
v.	)	No. 1-06-3463
SANDY WILLIAMS,	)	
Defendant-Appellant,	)	

ORDER

This cause coming on to be heard on Plaintiff-Appellee's Petition for Rehearing and the Court being fully advised in the premises;

IT IS HEREBY ORDERED that the Petition for Rehearing is hereby denied.

/s/ Allan J. Greiman
Justice

/s/ Patrick J. Quinn
Justice

/s/ Jay V. Cunningham
Justice

ORDER ENTERED
OCT 14 2008
APPELLATE COURT,
FIRST DISTRICT

Docket No. 107550.

**IN THE
SUPREME COURT
OF
THE STATE OF ILLINOIS**

THE PEOPLE OF THE STATE OF ILLINOIS, Appellee and Cross-Appellant, v. SANDY WILLIAMS, Appellant and Cross-Appellee.

Opinion filed July 15, 2010.

CHIEF JUSTICE FITZGERALD delivered the judgment of the court, with opinion.

Justices Thomas, Kilbride, Garman, and Karmeier concurred in the judgment and opinion.

Justice Freeman specially concurred, with opinion.

Justice Burke concurred in part and dissented in part, with opinion.

OPINION

After a bench trial in the circuit court of Cook County, the defendant, Sandy Williams, was convicted of two counts of aggravated criminal sexual assault and one count each of aggravated kidnapping and aggravated robbery of L.J. The appellate court affirmed the defendant's conviction, but reversed the trial court's imposition of a consecutive sentence. 385

Ill. App. 3d 359, 371. On appeal to this court, the defendant argues that the testimony of an Illinois State Police forensic analyst, who relied upon a DNA report prepared by a nontestifying third-party analyst, lacked a sufficient evidentiary foundation. Alternatively, the defendant argues that this testimony concerning the report was hearsay presented for the truth of the matter asserted and violated the defendant's sixth amendment confrontation clause right. The State cross-appeals, maintaining the appellate court improperly reversed the trial court's imposition of a consecutive sentence. For the following reasons, we affirm in part and reverse in part.

BACKGROUND

The State charged the defendant in a 17-count indictment with aggravated criminal sexual assault, aggravated kidnapping, and aggravated robbery. The cause proceeded to a bench trial. The counts that the State ultimately submitted to the judge were counts IV and VI (aggravated criminal sexual assault under 720 ILCS 5/12–(a)(3) (West 2000)), count XV (aggravated kidnapping under 720 ILCS 5/10–2(a)(3) (West 2000)) and count XVII (aggravated robbery under 720 ILCS 5/18–5 (West 2000)). The State entered a *nolle prosequi* on the remaining counts. The following facts were adduced at trial.

On February 10, 2000, 22-year-old L.J. worked until 8 p.m. as a cashier at a clothing store in Chicago. On her way home to the south side of the city, she

purchased items at the store for her mother and went toward her home. As she passed an alley, the defendant came up behind her and forced her to sit in the backseat of a beige station wagon, where he told her to take her clothes off. The defendant then vaginally penetrated L.J. The defendant also contacted L.J.'s anus with his penis, but did not penetrate. He then pushed L.J. out of the car while keeping L.J.'s coat, money, and other items. After L.J. ran home, her mother opened the door and saw her in tears, partially clothed with only one pant leg on. After L.J. went into the bathroom, her mother called the police.

Shortly after 9 p.m., Chicago police officers arrived at the home and found L.J. in the bathtub. She had not yet washed her vaginal area. After L.J. told the officers what had transpired, the officers issued a "flash" message for a black male, 5 foot, 8 inches tall, wearing a black skull cap, a black jacket and driving a beige station wagon. An ambulance transported L.J. and her mother to the emergency room. Dr. Nancy Schubert conducted a vaginal exam of L.J. and took vaginal swabs, which were then sealed and placed into a criminal sexual assault evidence collection kit along with L.J.'s blood sample. The kit was sent to the Illinois State Police (ISP) Crime Lab for testing and analysis.

On February 15, 2000, forensic biologist Brian Hapack with the ISP Crime Lab received L.J.'s sexual assault evidence collection kit and performed tests that confirmed the presence of semen. Hapack placed the swabs in a coin envelope, sealed the envelope, and

placed the evidence in a secure freezer. Hapack guaranteed the accuracy of his results by working in a clean environment free from contamination and by ensuring that the tests functioned properly.

On August 3, 2000, police arrested the defendant for an unrelated offense and, pursuant to a court order, drew a blood sample from the defendant. On August 24, 2000, forensic scientist Karen Kooi performed an analysis on the sample that consisted of four quarter-sized bloodstains on a filter card. Kooi extracted a deoxyribonucleic acid (DNA) profile[1] and entered it into the database at the ISP Crime Lab. Meanwhile, the samples from L.J.'s sexual assault kit

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[1] When a DNA laboratory receives a sample of blood, the DNA is extracted from the fraction containing the nucleic material in the white blood cells. DNA is a tightly wound strand that measures approximately six feet in length. Uncoiled, DNA resembles a twisted ladder with rungs of the ladder made of chemicals called nucleotides. DNA has four different types of nucleotides (A: adenine, T: thymine, G: guanine, and C: cytosine) that form interlocking pairs. D. Kaye & G. Sensabaugh, *Reference Guide on DNA Evidence*, Reference Manual on Scientific Evidence 485, 491 (2d ed. 2000). It is the order (sequence) of these building blocks that determines each person's genetic characteristics. The great majority of DNA is identical from person to person but forensic scientists commonly examine 13 specific regions, or loci, where certain nucleotide patterns are repeated again and again. These patterns are called "Short Tandem Repeats" (STRs). The number of repeated sequences determines the length of an STR. This length of repeated sequences, often called an allele, may vary between people and is what analysts measure and use for comparison. D. Kaye & G. Sensabaugh, *Reference Guide on DNA Evidence*, Reference Manual on Scientific Evidence 485, 494 (2d ed. 2000).

were sent to Cellmark Diagnostic Laboratory in Germantown, Maryland, for DNA analysis on November 29, 2000. Cellmark returned L.J.'s vaginal swabs and blood standard to the ISP Crime Lab on April 3, 2001. Cellmark derived a DNA profile for the person whose semen was recovered from L.J. According to ISP forensic biologist Sandra Lambatos, whose testimony will be set forth more fully below, the DNA profile received from Cellmark matched the defendant's DNA profile from the blood sample in the ISP database. L.J. identified the defendant in a line up on April 17, 2001. The defendant was then arrested for the instant offenses.

At the bench trial, Lambatos was accepted as an expert in forensic biology and forensic DNA analysis by the trial court. Lambatos began her testimony with a brief explanation of polymerase chain reaction (PCR) testing. PCR testing, according to Lambatos, is one of the most modern types of DNA analysis available and is generally accepted in the scientific community. Lambatos explained how PCR analysis can be used to identify a male profile from a semen sample. First, an analyst conducts a procedure that isolates and extracts DNA from a sample that may include a mixture from a particular defendant and the victim. The DNA is not large enough to test at this point, and requires amplification to form a more workable sample. After amplification, an analyst can measure the length of an individual specific strand through a process called electrophoresis. A computer translates this measurement onto a graph called an

electropherogram. The electropherogram is a representation of the individual's specified DNA data into a line with peaks representing the lengths of the DNA strands of the 13 STR regions. Reports generally also provide a "table of alleles" showing the DNA profile of each sample. She also stated that the statistical probability of a match can also be determined by entering the alleles into a frequency database to learn how common they are in the general population.

Lambatos further testified that it is a commonly accepted practice in the scientific community for one DNA expert to rely on the records of another DNA analyst to complete her work. As mentioned, she used the DNA profile from Cellmark to match the DNA profile from the defendant's blood sample, which was contained in the ISP database. She stated that, because Cellmark was an accredited laboratory, it was required to meet "certain guidelines to perform DNA analysis for the Illinois State Police and so all those calibrations and internal proficiencies and controls [of the equipment used] would have had to have been in place for them to perform the DNA analysis." Cellmark's testing and analysis methods were generally accepted in the scientific community according to Lambatos. Lambatos, however, admitted that Cellmark had different procedures and standards for results than the ISP Crime Lab. Nevertheless, Lambatos testified that she personally developed proficiency tests for Cellmark technicians to perform. She further testified that she routinely relied on

results from Cellmark and she did not observe any chain of custody or contamination problems.

The prosecutor then asked her expert opinion regarding the DNA match. Defense counsel objected and asserted that Lambatos could not rely upon the testing performed by another lab. The trial court replied, "We will see. If she says that she didn't do her own testing and she relied on a test of another lab and she's testifying to that. We'll see what she's going to say."

Lambatos then testified that a match was generated of the male DNA profile found in the semen from L.J.'s vaginal swabs to the defendant's male DNA profile from the defendant's blood standard. In response to defense questioning, Lambatos restated her interpretation of the alleles at each of the 13 locations. She testified about several locations where she visually filtered out spurious alleles and "background noise" and distinguished the defendant's profile. Lambatos concluded that in her expert opinion, the semen from L.J.'s vaginal swab was a match to the defendant. Lambatos testified that the probability of this profile occurring in the general population was one in 8.7 quadrillion black, one in 390 quadrillion white, and one in 109 quadrillion Hispanic unrelated individuals. She did not observe any degradation or irregularities in the sample from L.J.'s vaginal swab.

She stated that, in general, if "there was a question of a match, then we would investigate that further by looking at the electropherograms from all

the cases involved and do some more comparisons on that." She explained that in looking at Cellmark's report, she interpreted it and "I did review their data, and I did make my own interpretations so I looked at what * * * they sent to me and did make my own determination, my own opinion." While Lambatos testified to her conclusion informed by Cellmark's report, Cellmark's report itself was not introduced into evidence. Also, while Lambatos referenced documents she reviewed in forming her own opinion, she did not read the contents of the Cellmark report into evidence.

At the conclusion of Lambatos' testimony, the defendant moved to strike the evidence of testing completed by Cellmark based upon a violation of his sixth amendment right to confront witnesses against him. The defendant also objected on the grounds of foundation, citing *People v. Raney*, 324 Ill. App. 3d 703 (2001), and argued insufficient evidence was presented regarding the calibration of the Cellmark equipment. The trial court denied the defendant's motion to strike. The trial court stated, "I don't think this is a *Crawford* scenario, and I agree with the State that the evidence is – the issue is, you know, what weight do you give the test, not do you exclude it and accordingly your motion to exclude or strike the testimony of the last witness or opinions based on her own independent testing of the data received from Cellmark will be denied."

Following this and other testimony concerning the incident, the State rested. The trial court denied

the defendant's motion for a directed finding. The defendant did not present any evidence in his defense. Thereafter, the trial court found the defendant guilty of two counts of aggravated criminal sexual assault, and one count each of aggravated kidnapping and aggravated robbery. The court denied the defendant's motion for a new trial.

A sentencing hearing was held. At the hearing, evidence was presented demonstrating the defendant was convicted and sentenced for the aggravated sexual assault, armed robbery, and aggravated kidnapping of G.M. in case number 84–C–12720. The defendant was paroled in February 1997 and discharged from mandatory supervised release on February 4, 2000, six days prior to the instant crime. Following the hearing, the trial court sentenced the defendant to two concurrent terms of natural life imprisonment for the aggravated criminal sexual assault counts and a concurrent term of 15 years' imprisonment for the aggravated robbery count. The court also ordered that the defendant should serve a consecutive term of 60 years' imprisonment for the aggravated kidnapping count. The court denied the defendant's motion to reconsider his sentence.

On appeal, the appellate court rejected the defendant's contentions that the State failed to establish a sufficient foundation for Lambatos' opinion (385 Ill. App. 3d at 366); that the State failed to establish that Cellmark's equipment was adequately calibrated and properly functioning (385 Ill. App. 3d at 366); and that the State failed to establish a sufficient chain of

custody based upon Cellmark's handling of the evidence (385 Ill. App. 3d at 367).[1] The appellate court next rejected the defendant's argument that the results of Cellmark's testing and analysis were testimonial in nature and therefore Lambatos' expert testimony thereto violated the defendant's constitutional right to confrontation. 385 Ill. App. 3d at 370. The court noted that the confrontation clause does not bar the use of testimonial statements for purposes other than establishing the truth of the matter asserted. The appellate court found that "Cellmark's report was not offered for the truth of the matter asserted; rather, it was offered to provide a basis for Lambatos' opinion." 385 Ill. App. 3d at 369. The court stated, "Overall, defendant essentially requests that we require each and every individual involved in the testing and analysis of DNA to testify at trial. For obvious reasons in the abstract and for those provided in the case at bar, we decline to issue such a ruling." 385 Ill. App. 3d at 370. Lastly, the court addressed the sentencing issue. The appellate court, following the decisions of *People v. Dixon*, 366 Ill. App. 3d 848 (2006), and *People v. Spears*, 371 Ill. App. 3d 1000 (2007), and this court's decision in *People v. Palmer*, 218 Ill. 2d 148 (2006), found that a term of years could not be served consecutive to a term of natural life. 385 Ill. App. 3d at 371. The appellate court therefore vacated that portion of the circuit court's

[1] The chain of custody issue is presently not before this court.

order imposing consecutive sentences for aggravated criminal sexual assault and aggravated kidnapping, and instead modified the defendant's sentence to impose concurrent sentences for those convictions. 385 Ill. App. 3d at 371. Justice Cunningham filed a dissent, asserting that the prosecution failed to lay a sufficient foundation for Lambatos' testimony. 385 Ill. App. 3d at 371 (Cunningham, J., dissenting).

This court granted the defendant's petition for leave to appeal. 210 Ill. 2d R. 315. The State has requested cross-relief concerning the appellate court's modification of the sentence.

ANALYSIS

Foundational Challenge

The defendant argues generally before this court that the trial court committed reversible error when it permitted Lambatos to testify that the defendant's DNA profile matched the male DNA profile of the semen in L.J.'s vaginal swabs. The defendant specifically argues that the trial court erred in admitting Lambatos' testimony regarding the match because a sufficient foundation was not established. The defendant additionally argues that Lambatos' testimony violated his sixth amendment confrontation right under *Crawford v. Washington*, 541 U.S. 36, 158 L. Ed. 2d 177, 124 S. Ct. 1354 (2004). We begin with the foundational argument. We apply the abuse of discretion standard to the defendant's foundational challenge to the trial court's admission of Lambatos'

expert testimony. *People v. Lovejoy*, 235 Ill. 2d 97, 141 (2009); *People v. Sutherland*, 223 Ill. 2d 187, 281 (2006).

The defendant contends that the trial court should not have permitted the State's forensic analyst to testify because of a lack of sufficient testimony that the Cellmark report was reliable. According to the defendant, when expert testimony relies upon data obtained from electronic or mechanical equipment, the proponent of the testimony must offer foundational proof that the equipment was calibrated and functioning properly at the time the data was presented in order to establish that the expert's testimony is reliable. The State responds that Lambatos' testimony that Cellmark's testing was done according to valid scientific theory and reliable methodology provided a sound basis upon which Lambatos could formulate her opinion. Therefore, the State asserts that it was not obliged to present additional testimony regarding the calibration and functioning of Cellmark's equipment to admit Lambatos' expert opinion pursuant to *Wilson v. Clark*, 84 Ill. 2d 186 (1981). We agree with the State.

In *Wilson v. Clark*, this court adopted Rules 703 and 705 of the Federal Rules of Evidence concerning an expert's testimony at trial. Wilson, 84 Ill. 2d at 196. Former Rule 703 states in part:

> "The facts or data in the particular case upon which an expert bases an opinion or inference may be those perceived by or made

> known to the expert at or before the hearing. If of a type reasonably relied upon by experts in the particular field in forming opinions or inferences upon the subject, the facts or data need not be admissible in evidence in order for the opinion or inference to be admitted." Fed. R. Evid. 703 (amended 2000).

The court in *Wilson* noted that, in a trial context, "[b]oth Federal and State courts have interpreted Federal Rule 703 to allow opinions based on facts not in evidence." *Wilson*, 84 Ill. 2d at 193. Rule 705 states:

> "The expert may testify in terms of opinion or inference and give reasons therefor without first testifying to the underlying facts or data, unless the court requires otherwise. The expert may in any event be required to disclose the underlying facts or data on cross-examination." Fed. R. Evid. 705.

Following Rule 705, we held in *Wilson* that, at trial, "an expert may give an opinion without disclosing the facts underlying that opinion." *Wilson*, 84 Ill. 2d at 194. "Under Rule 705 the burden is placed upon the adverse party during cross-examination to elicit the facts underlying the expert opinion." *Wilson*, 84 Ill. 2d at 194. Thus, an expert testifying at trial may offer an opinion based on facts not in evidence, and the expert is not required on direct examination to disclose the facts underlying the expert's opinion. *Robidoux v. Oliphant*, 201 Ill. 2d 324, 334 (2002).

This court applied *Wilson v. Clark* to DNA evidence in *People v. Sutherland*, 223 Ill. 2d 187 (2006). There, the defendant filed a motion during trial to bar testimony from Terry Melton, the president of Mitotyping Technologies, concerning human mitochondrial DNA (mtDNA). Melton did not complete the actual laboratory "bench work" on the evidence. *Sutherland*, 223 Ill. 2d at 281. The defendant argued that, without the lab technician's testimony, Melton's testimony regarding the mtDNA results was improper. We rejected that argument, holding that it was enough that Melton relied upon data reasonably relied upon by other experts in her field. *Sutherland*, 223 Ill. 2d at 282.

Here, the trial court correctly denied defense counsel's objection to the foundation for Lambatos' expert opinion. It is undisputed that Lambatos was qualified as an expert in forensic biology and DNA analysis; Lambatos testified that it is the commonly accepted practice in the scientific community for a forensic DNA analyst to rely on the work of other analysts to complete her own work; and Lambatos based her opinion on information reasonably relied upon by experts in her field.

As in *Sutherland*, Lambatos testified that Cellmark's work on the vaginal swabs in this case and the results of the PCR analysis conducted by Kooi are the types of data reasonably relied upon by experts in her field. Lambatos testified that, because Cellmark was an accredited laboratory, calibrations, internal proficiencies, and controls had to be in place

for the DNA analysis to be completed in this case. These internal controls were, according to Lambatos' testimony, ones that she personally developed. Lambatos herself reviewed Cellmark's data, including the electropherogram, and did not have any question about the match. Rather, she used her own expertise to compare the two profiles before her. She also did not observe any problems in the chain of custody or any signs of contamination or degradation of the evidence. Lambatos ultimately agreed with Cellmark's results regarding the male DNA profile, and then made her own visual and interpretive comparisons of the peaks on the electropherogram and the table of alleles to conclude there was a match to the defendant's genetic profile. See P. Gianelli & A. Imwinkelreid, Scientific Evidence § 18.04(b), at 54 (4th ed. 2009) ("in STR testing, the analyst can visually compare the two electropherograms or rely on a computerized comparison").

We also reject the defendant's specific complaint that there was no testimony that the instruments used by Cellmark were calibrated and functioning properly. The defendant principally relies on *People v. Raney*, 324 Ill. App. 3d 703 (2001). *Raney* held that where the expert testimony is based upon an electronic or mechanical device, the expert must provide some foundational proof that the device was functioning properly at the time it was used. *Raney*, 324 Ill. App. 3d at 710. The defendant there argued that the State failed to establish a proper foundation for the admission of scientific results from the gas

chromotography mass spectrometer (GCMS) machine. The court agreed, finding that the record contained no evidence regarding whether the GCMS machine was functioning properly at the time it was used to analyze the substance. Further, the *Raney* court stated an expert should be able to explain how the GCMS machine was calibrated or why she knew the results were accurate. *Raney*, 324 Ill. App. 3d at 710, citing *People v. Bynum*, 257 Ill. App. 3d 502 (1994). Finding a lack of such an explanation, the court concluded that the State failed to prove the defendant guilty beyond a reasonable doubt because of the lack of foundation. *Raney*, 324 Ill. App. 3d at 711. The *Raney* court acknowledged, however, that "[i]t may not be feasible for each expert to personally test the instrument relied upon for purposes of determining what is a suspected controlled substance." *Raney*, 324 Ill. App. 3d at 710.

We find that the testing of narcotics using a GCMS machine is not comparable to the scientific process at issue in this case. At the defendant's bench trial, Lambatos did not merely regurgitate results generated by a machine, as the witness in *Raney* did. Lambatos conducted an independent evaluation of data related to samples of genetic material, including items processed at both Cellmark and the ISP Crime Lab. Lambatos used her expertise and professional judgment to compare the DNA profiles. Her examination of the different alleles from the blood sample and from the semen sample indicated a match with the defendant. She also determined the

statistical probability of the match by examining the alleles and entering them into a frequency database to determine how common they are in the general population. Further, this case is distinguishable from *Raney* because Lambatos maintained that Cellmark necessarily met the threshold of proper DNA analysis because Cellmark was an accredited laboratory and followed guidelines that she had personally developed. We therefore do not accept the defendant's invitation to broadly interpret *Raney* to find an insufficient foundation where an analyst merely relies upon data obtained from electronic or mechanical equipment.

Finally, under *Wilson*, the burden is placed upon the adverse party during cross-examination to elicit facts underlying the expert opinion. *Wilson*, 84 Ill. 2d at 194, citing Fed. R. Evid. 705. The record reveals substantial cross-examination of Lambatos' comparison of the DNA profile from the database to the DNA profile from the sexual assault kit. The record also reveals that the trial court, sitting as a fact finder, appropriately weighed the testimony. It stated:

> "The DNA expert that testified, the last witness, was in my view the best DNA witness I have ever heard. Under detail [*sic*], lengthy complex cross-examination by the defense on every single part of her report she explains, she told what was the basis of her opinion, she was an outstanding witness in every respect. There is the issue of she didn't do the actual test. The testing is farmed out to other labs. Some did the testing, some are an

> accredited lab. That was part of the playback you might say of the Illinois state police forensic division at that time, and I agree with the State that there is no misidentification here. This is a match, this is 1 in 8.7 quadrillion, 50 times the population for the last 2000 years. It's an absolute match."

Accordingly, the issue of Lambatos' reliance on Cellmark's report went to the weight of her opinion and not its admissibility. See *Melendez-Diaz v. Massachusetts*, 557 U.S. ___, ___ n.1, 174 L. Ed. 2d 314, 322 n.1, 129 S. Ct. 2527, 2532 n.1 (2009) (stating that it was not the case that "anyone whose testimony may be relevant in establishing the chain of custody, authenticity of the sample, or accuracy of the testing device, must appear in person as part of the prosecution's case"). The trial court assessed the weight of Lambatos' testimony and found it convincing.

We therefore find that the trial court did not abuse its discretion in finding a sufficient foundation for Lambatos' testimony and therefore turn to the defendant's *Crawford* argument.

Sixth Amendment

The trial court rejected the defense objection that his sixth amendment right was violated by Lambatos' testimony concerning Cellmark's report. The appellate court affirmed this decision, finding that the complained-of statements regarding Cellmark's report by Lambatos were not used for the truth of the

matter asserted and therefore the sixth amendment was not implicated. The defendant's claim that his sixth amendment confrontation right was violated involves a question of law, which we review *de novo*. *Lovejoy*, 235 Ill. 2d at 141-42.

The sixth amendment guarantees that "[i]n all criminal prosecutions, the accused shall enjoy the right * * * to be confronted with the witnesses against him." U.S. Const., amend. VI. This part of the sixth amendment is called the confrontation clause and applies to the states through the fourteenth amendment. *People v. Stechly*, 225 Ill. 2d 246, 264 (2007). In *Crawford v. Washington*, 541 U.S. 36, 158 L. Ed. 2d 177, 124 S. Ct. 1354 (2004), the United States Supreme Court held that the sixth amendment's "primary object" is with "testimonial hearsay." *Crawford*, 541 U.S. at 53, 158 L. Ed. 2d at 194, 124 S. Ct. at 1365. Accordingly, "[t]estimonial statements of witnesses absent from trial have been admitted only where the declarant is unavailable, and only where the defendant has had a prior opportunity to cross-examine." *Crawford*, 541 U.S. at 59, 158 L. Ed. 2d at 197, 124 S. Ct. at 1369. The Supreme Court added an explicit logical corollary to this statement by pointing out, in a footnote, that the confrontation clause does not bar the admission of testimonial statements that are admitted for purposes other than proving the truth of the matter asserted. *Crawford*, 541 U.S. at 59 n.9, 158 L. Ed. 2d at 197 n.9, 124 S. Ct. at 1369 n.9, citing *Tennessee v. Street*, 471 U.S. 409, 414, 85 L. Ed. 2d 425, 431, 105 S. Ct. 2078, 2081-82 (1985);

see also *Lovejoy*, 235 Ill. 2d at 142. Stated another way, we need only consider whether a statement was testimonial if the statements at issue were, in fact, hearsay statements offered to prove the truth of the matter asserted. *Crawford*, 541 U.S. at 59 n.9, 158 L. Ed. 2d at 197 n.9, 124 S. Ct. at 1369 n.9; see also *Lovejoy*, 235 Ill. 2d at 142; *People v. Johnson*, 389 Ill. App. 3d 618, 631-32 (2009); *People v. Melchor*, 226 Ill. 2d 24, 34-35 (2007) (vacating appellate court judgment and remanding with instructions to consider the hearsay exception first before proceeding to the sixth amendment issue).

The hearsay rule generally prohibits the introduction of an out-of-court statement offered to prove the truth of the matter asserted therein. *Lovejoy*, 235 Ill. 2d at 145; *People v. Tenney*, 205 Ill. 2d 411, 432-33 (2002). Underlying facts and data, however, may be disclosed by an expert, not for the truth of the matter asserted, but for the purpose of explaining the basis for his opinion. *Lovejoy*, 235 Ill. 2d at 143. Moreover, it is well established that an expert may testify about the findings and conclusions of a nontestifying expert that he used in forming his opinions. *Lovejoy*, 235 Ill. 2d at 143.

The defendant argues that the State introduced the Cellmark report to establish the truth of the matter asserted and it is therefore hearsay. Without Cellmark's report, according to the defendant, Lambatos could not have given her testimony that the defendant's DNA matched the profile deduced by Cellmark. The State counters that Lambatos testified

about the Cellmark tests only to explain how she formed her own opinion. Therefore, the only statement that the prosecution offered for the truth of the matter asserted was Lambatos' own opinion. According to the State, presentation of the person who prepared the DNA profile at Cellmark was not necessary for confrontation purposes. We agree with the State.

This court has long held that prohibitions against the admission of hearsay do not apply when an expert testifies to underlying facts and data, not admitted into evidence, for the purpose of explaining the basis of his opinion. *Lovejoy*, 235 Ill. 2d at 142. In *Lovejoy*, a medical examiner testified that another toxicologist detected six different types of drugs in the victim's body after conducting blood tests, indicating that poisoning caused the victim's death. *Lovejoy*, 235 Ill. 2d at 141. The medical examiner testified that he was trained in toxicology interpretation and that the toxicology report showed lethal amounts of several medications in the victim's blood. *Lovejoy*, 235 Ill. 2d at 141. He explained how the toxicology report added to his own physical observations during the autopsy and that it aided him in determining the cause of death. *Lovejoy*, 235 Ill. 2d at 144. Following *Wilson v. Clark* and its progeny, we noted that experts may not only consider the reports commonly relied upon by experts in their particular field, but also to testify to the contents of the underlying records. *Lovejoy*, 235 Ill. 2d at 143, citing *Wilson v. Clark*, 84 Ill. 2d 186

(1981), *People v. Pasch*, 152 Ill. 2d 133 (1992). Quoting *People v. Pasch*, we explained:

> "'While the contents of reports relied upon by experts would clearly be inadmissible as hearsay if offered for the truth of the matter asserted, an expert may disclose the underlying facts and conclusions for the limited purpose of explaining the basis for his opinion. [Citation.] By allowing an expert to reveal the information for this purpose alone, it will undoubtedly aid the jury in assessing the value of his opinion.'" *Lovejoy*, 235 Ill. 2d at 143, quoting *Pasch*, 152 Ill. 2d at 176.[3]

Accordingly, we held that the medical examiner's testimony repeating the nontestifying analyst's conclusions was not admitted for the truth of the matter asserted, but rather was introduced "to show the jury the steps [the examiner] took prior to rendering an expert opinion in this case." *Lovejoy*, 235 Ill. 2d at 144. Consequently, there was no confrontation clause violation. *Lovejoy*, 235 Ill. 2d at 145.

Our appellate court addressed a similar factual situation in *People v. Johnson*, 394 Ill. App. 3d 1027 (2009). In Johnson, the defendant challenged an expert's testimony regarding DNA test results,

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[3] As we noted in *Lovejoy*, Federal Rule of Evidence 703, upon which the *Wilson* opinion was based, has been amended. Illinois has not adopted the amended version of Rule 703, and the defendant does not ask us to consider the amended version of the rule in this case.

arguing that he had no opportunity to cross-examine the analysts who conducted the testing. The court observed that experts are permitted to disclose underlying facts and data to the jury in order to explain the basis for their opinions. It concluded that the State offered the DNA report at issue as part of the basis for the expert opinion and no confrontation violation occurred. 394 Ill. App. 3d at 1034.

Like *Lovejoy* and *Johnson*, Lambatos' testimony about Cellmark's report was not admitted for the truth of the matter asserted. The State introduced this testimony, rather, to show the underlying facts and data Lambatos used before rendering an expert opinion in this case. *Lovejoy*, 235 Ill. 2d at 144. The evidence against the defendant was Lambatos' opinion, not Cellmark's report, and the testimony was introduced live on the witness stand. Indeed, the report was not admitted into evidence at all. Rather, Lambatos testified to her conclusion based upon her own subjective judgment about the comparison of the Cellmark report with the existing ISP profile. *Cf.* P. Gianelli & A. Imwinkelreid, Scientific Evidence § 18.04(b), at 57 (4th ed. 2007) ("when technical problems materialize, it can be very difficult to interpret the electropherograms. * * * Thus, there is room for subjective judgment").

For instance, at trial, the defense attorney questioned her if she confused the defendant's DNA with L.J.'s DNA. He asked Lambatos if the alleles were not more consistent with the victim than the defendant at

several loci. When asked about a specific locus called "T-POX," Lambatos responded:

> "In my opinion with this profile, it is a mixture so when we have a mixture you are looking at the profile as a whole * * * and it's important to note that the alleles at each locus on a DNA molecule that we look at are very common. It is not uncommon for you and I to have the same alleles at a locus or you and I to have the same alleles. The power of this DNA comes with looking at all 13 areas of the DNA because it's that uniqueness looking at all 13 that's going to give us numbers. And here like a T-POX and in the other two that you mentioned, there are only two alleles and like I say in my opinion there are only two people in this profile and it just may so happen that they share an 8 or that they share an 11 or it may so happen that she is an 8 and 11 and he is just an 11, 11, or he is an 8, 11 and she is an 8, 8. There's only certain possibilities that can be attributed at each locus."

After defense counsel stated that Lambatos' interpretation could have erred because of a degraded sample, she stated:

> "Yes, it's possible to have a degraded sample but if the sample was degraded, that would be known by our earlier examination of the evidence [by Hapack]. We determine the quantity and the DNA that we have and the quality of the DNA and also after we look at the electropherograms, you can see the

> degradation, their specific patterns, and the data looks a certain way when it is degraded. The peaks aren't as defined. They slope off missing here and there. Different things happen with degradation, and I didn't see any evidence of degradation in this particular fraction."

The defendant's suggestion that Lambatos was merely a "conduit" for Cellmark's report and that the report was entirely dispositive of Lambatos' opinion, and thus hearsay, is not compelling. Her testimony consisted of her expert comparison of the DNA profile in the ISP database with the DNA profile from the kit prepared by Cellmark. She used her own expertise to compare the two profiles before her: the blood sample prepared by Kooi and the semen sample prepared by Cellmark. She also did not observe any problems in the chain of custody or any signs of contamination or degradation of the evidence. Lambatos ultimately agreed with Cellmark's results regarding the male DNA profile. But Lambatos additionally made her own visual and interpretive comparisons of the peaks on the electropherogram and the table of alleles to make a conclusion on the critical issue: that there was a match to the defendant's genetic profile. Accordingly, Cellmark's report was not used for the truth of the matter asserted and was not hearsay.

The defendant further asserts that the instant matter is "directly analogous" to the United States Supreme Court's recent holding of *Melendez-Diaz v. Massachusetts*, 557 U.S. ___, 174 L. Ed. 2d 314, 129

S. Ct. 2527 (2009). In *Melendez-Diaz*, the Court considered whether a certification by a forensic lab analyst as to the nature and weight of a controlled substance was a testimonial statement, and thus its admission in lieu of live testimony by the analyst violated the sixth amendment right to confrontation. The defendant in that case, Luis Melendez-Diaz, was charged with cocaine trafficking in an amount between 14 and 28 grams. *Melendez-Diaz*, 557 U.S. at ___, 174 L. Ed. 2d at 320, 129 S. Ct. at 2530. At trial, the prosecution placed into evidence white plastic bags containing a substance that resembled cocaine. *Melendez-Diaz*, 557 U.S. at ___, 174 L. Ed. 2d at 319-20, 129 S. Ct. at 2530. It also submitted three "certificates of analysis" showing the results of forensic analysis performed on the seized substances. The certificates reported the weight of the substances and stated that the bags "'[have] been examined with the following results: The substance was found to contain: Cocaine.'" *Melendez-Diaz*, 557 U.S. at ___, 174 L. Ed. 2d at 320, 129 S. Ct. at 2531. The certificates were sworn to before a notary public by analysts at the State Laboratory Institute of the Massachusetts Department of Public Health as required by Massachusetts law. *Melendez-Diaz*, 557 U.S. at ___, 174 L. Ed. 2d at 320, 129 S. Ct. at 2531. Massachusetts law permitted the use of such affidavits to provide *prima facie* evidence of the analyzed substance's composition, quality and net weight. *Melendez-Diaz*, 557 U.S. at ___, 174 L. Ed. 2d at 320, 129 S. Ct. at 2531.

In a 5-4 decision, the Court held that, following *Crawford*, the analyst's certificates "were testimonial statements and the analysts were 'witnesses' for purposes of the Sixth Amendment. Absent a showing that the analysts were unavailable to testify at trial and that petitioner had a prior opportunity to cross-examine them, petitioner was entitled to '"be confronted with"' the analysts at trial." *Melendez-Diaz*, 557 U.S. at ___, 174 L. Ed. 2d at 322, 129 S. Ct. at 2532, quoting *Crawford*, 541 U.S. at 54, 158 L. Ed. 2d at 194, 124 S. Ct. at 1365. The Court found the "case involves little more than the application of our holding in *Crawford*." *Melendez-Diaz*, 557 U.S. at ___, 174 L. Ed. 2d at 332, 129 S. Ct. at 2542, citing *Crawford*, 541 U.S. 36, 158 L. Ed. 2d 177, 124 S. Ct. 1354.[4]

The Court based its holding on two rationales derived from *Crawford*. First, the forensic analyst's certificates were within the "core class of testimonial statements" in *Crawford*. Because the critical issue was whether the substance was cocaine, the Supreme Court found that "[t]he 'certificates' are functionally identical to live, in-court testimony, doing 'precisely what a witness does on direct examination.'" *Melendez-Diaz*, 557 U.S. at ___, 314 L. Ed. 2d at 321, 129

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[4] Justice Thomas, in providing the fifth vote, "join[ed] the Court's opinion in this case because the documents at issue in this case 'are quite plainly affidavits,' [citation]. As such, they 'fall within the core class of testimonial statements' governed by the Confrontation Clause. [Citation.]" *Melendez-Diaz*, 557 U.S. at ___, 174 L. Ed. 2d at 333, 129 S. Ct. at 2543 (Thomas, J., concurring).

S. Ct. at 2532, quoting *Davis v. Washington*, 547 U.S. 813, 830, 165 L. Ed. 2d 224, 242, 126 S. Ct. 2266, 2278 (2006). Second, the Court stated, "not only were the affidavits '"made under circumstances which would lead an objective witness reasonably to believe that the statement would be available for use at a later trial,"' [citation] but under Massachusetts law the *sole purpose* of the affidavits was to provide 'prima facie evidence of the composition, quality, and the net weight' of the analyzed substance." (Emphasis in original.) *Melendez-Diaz*, 557 U.S. at ___, 174 L. Ed. 2d at 321, 129 S. Ct. at 2532, quoting Mass. Gen. Laws, ch. 111, §13.

The majority explicitly rejected the suggestion that the prosecutors were required to call each person involved in the chain of custody to the witness stand. Responding to the dissent in a footnote, the majority stated:

> "[We] do not hold, and it is not the case, that anyone whose testimony may be relevant in establishing the chain of custody, authenticity of the sample, or accuracy of the testing device, must appear in person as part of the prosecution's case. * * * '[G]aps in the chain [of custody] normally go to the weight of the evidence rather than its admissibility.' It is up to the prosecution to decide what steps in the chain of custody are so crucial as to require evidence; but what testimony is introduced must (if the defendant objects) be introduced live. Additionally, documents prepared in the regular course of equipment

> maintenance may well qualify as nontestimonial records." (Emphasis omitted.) *Melendez-Diaz*, 557 U.S. at ___ n.1, 174 L. Ed. 2d at 322 n.1, 129 S. Ct. at 2532 n.1.

Accordingly, the Court in *Melendez-Diaz* held that the defendant's confrontation clause right had been violated.

We find that *Melendez-Diaz* does not change our determination. In *Melendez-Diaz*, the disputed evidence was a "bare-bones statement" that the substance was cocaine, and the defendant "did not know what tests the analysts performed, whether those tests were routine, and whether interpreting their results required the exercise of judgment or the use of skills that the analysts may not have possessed." *Melendez-Diaz*, 557 U.S. at ___, 174 L. Ed. 2d at 327, 129 S. Ct. at 2537. Here, Lambatos testified about her own expertise, judgment, and skill at interpretation of the specific alleles at the 13 loci, and confirmed her general knowledge of the protocols and procedures of Cellmark. Lambatos also conducted her own statistical analysis of the DNA match. She did not simply read to the judge, sitting as a fact finder, from Cellmark's report. This is in contrast to Cellmark's report, which did not include any comparative analysis of the electropherograms or DNA profiles and was not introduced into evidence. Cellmark's electropherogram, rather, was part of the process used by Lambatos in rendering her opinion concluding that the profiles matched. Thus, Lambatos' opinion is

categorically different from the certificate in *Melendez-Diaz*.

In sum, the State did not offer Lambatos' testimony regarding the Cellmark report for the truth of the matter asserted and this testimony did not constitute "hearsay." Thus, the trial court and appellate court properly concluded that *Crawford* considerations did not apply here. Lambatos disclosed the underlying facts from Cellmark's report for the limited purpose of explaining the basis for her opinion on the critical issue concerning whether there was a DNA match between the defendant's blood sample and the semen sample recovered from L.J. By allowing the expert to reveal the information for this purpose alone, it undoubtedly aided the judge, sitting as the factfinder, in assessing the value of Lambatos' opinion. *Lovejoy*, 235 Ill. 2d at 143, quoting *Pasch*, 152 Ill. 2d at 176; see also *Johnson*, 394 Ill. App. 3d at 1034 ("The Cellmark report was not offered to prove the truth of its contents"). Finally, the record demonstrates that the gaps in the chain of custody went to the "'weight of the evidence rather than its admissibility'" (*Melendez-Diaz*, 557 U.S. at ___ n.1, 174 L. Ed. 2d at 322 n.1, 129 S. Ct. at 2532 n.1, quoting *United States v. Lott*, 854 F.2d 244, 250 (7th Cir. 1988)), and our review of the record shows that Lambatos' conclusion was tested "in the crucible of cross-examination." *Crawford*, 541 U.S. at 61, 158 L. Ed. 2d at 199, 124 S. Ct. at 1370; see also *Delaware v. Fensterer*, 474 U.S. 15, 20, 88 L. Ed. 2d 15, 19, 106 S. Ct. 292, 294 (1985) (the sixth amendment

"guarantees an *opportunity* for effective cross-examination, not cross-examination that is effective in whatever way, and to whatever extent, the defense might wish" (emphasis in original)).

Sentencing

We note that the defendant was subject to two mandatory natural life sentences for his aggravated criminal sexual assault convictions and a concurrent term of 15 years for the aggravated robbery conviction. The defendant was also convicted of aggravated kidnapping, for which the trial court imposed an extended-term sentence of 60 years in prison. The trial court ordered that the 60-year sentence was to run consecutively to the end of his natural life sentences. The appellate court vacated that portion of the circuit court's order imposing the consecutive sentence, and instead modified the defendant's sentence to impose concurrent sentences for those convictions. 385 Ill. App. 3d at 371. This court recently held in *People v. Petrenko*, No. 107503 (June 4, 2010), that a sentence consecutive to a natural-life sentence was proper. We therefore reverse the appellate court on this issue and do not disturb the trial court's order.

CONCLUSION

For the foregoing reasons, the judgment of the appellate court is affirmed in part and reversed in part.

Appellate court judgment affirmed in part and reversed in part.

JUSTICE FREEMAN, specially concurring:

I agree that defendant's convictions and sentences must be affirmed. With respect to defendant's appeal in which he raises several evidentiary challenges, I concur in the court's judgment for reasons other than those expressed in its opinion. With respect to the State's cross-appeal, I join in that portion of the opinion reversing the appellate court's modification of defendant's sentence.

My concerns in this case are based on the lack of foundation for Sandra Lambatos' testimony. Lambatos was employed at the Illinois State Police Crime Laboratory at the time defendant's DNA was connected to the sexual assault at issue. Lambatos testified that the male DNA profile generated from the victim's vaginal swabs matched the DNA generated from a known sample of defendant's blood. Lambatos also testified that the statistical probabilities for such a match were astronomical. The crux of defendant's argument is that Lambatos' opinion was based on a DNA profile that was generated by Cellmark Laboratory. Due to backlogs at the Illinois

State Police Lab at the time of the testing, that lab often sent blood and semen samples to Cellmark, located in Maryland, in order for DNA material to be extracted from the samples. Cellmark would then amplify the extracted DNA material in order to produce a profile. The profile is thereafter used to produce a chart for comparison purposes. As defendant correctly notes, Lambatos did not conduct any of the scientific procedures used at Cellmark to generate the male DNA profile from the victim's vaginal swabs and she had no personal knowledge of any of the conditions at the lab when the profile was generated.

The court dismisses defendant's contentions based on Lambatos' testimony that "because Cellmark was an accredited laboratory, calibrations, internal proficiencies, and controls had to be in place for the DNA analysis to be completed in this case." Slip op. at 9. The court concludes that because witnesses like Lambatos are permitted in Illinois to give an opinion without disclosing the facts or data upon which the expert bases her opinion, such testimony is sufficient. Slip op. at 8. In other words, Lambatos' foundational testimony was based upon data reasonably relied upon by other experts in her field, and defendant's appellate concerns relate to the weight of the evidence, not its admissibility. Slip op. at 8-9.

An expert may certainly base her opinion on information reasonably relied upon by other experts in the field. See, *e.g.*, *Wilson v. Clark*, 84 Ill. 2d 186 (1981). But that was not what occurred here. Strikingly absent from Lambatos' testimony is any

information about Cellmark's extraction and amplification processes in generating the profile that was used to produce the data upon which she relied in her making comparisons. Lambatos' "testing" in this case consisted of her own reading to match up the numbers generated on the computer charts, which was derived from Cellmark's underlying scientific processes. What Lambatos failed to testify to during her examination was what occurred at Cellmark beginning from when Cellmark received the package containing the victim's vaginal swabs and blood sample to when Cellmark analysts performed the extraction and amplification procedures. Instead, she speculated that because Cellmark was accredited, "they would have to meet certain guidelines to perform DNA analysis for the Illinois State Police so all those calibrations and internal proficiencies and controls would have had to have been in place for them to perform the DNA analysis."

Lambatos' testimony on this point is insufficient. First, with respect to the fact of accreditation, Lambatos did not identify when or by whom Cellmark received its accreditation. Whether a laboratory is accredited is a fact that can be established without the need of an expert witness. Here, Lambatos' testimony does not establish that Cellmark was accredited; rather, it was her opinion that the laboratory was accredited at the time it ran the tests. Further, Lambatos did not base her assumption that "certain guidelines * * * would have had to have been in place" on sources such as the report of another expert, *i.e.*,

the written report of the technicians who generated the profile or even the lab's logbook at the time the profile was generated. See *United States v. Lawson*, 653 F.2d 299, 301-02 (7th Cir. 1981) (allowing testifying psychiatrist to base opinion under Rule 703 on staff reports and defendant's interviews with other physicians); *O'Gee v. Dobbs Houses, Inc.*, 570 F.2d 1084, 1089 (2d Cir. 1978) (allowing physician expert to testify under Rule 703 as to the patient's version of other doctors' opinion because expert had reports of two doctors as well as a hospital report). Lambatos' opinion regarding whether Cellmark followed proper guidelines at the time the DNA material was extracted and amplified was not based on anything other than her rank speculation that it "had to have been done" solely because Cellmark was an accredited lab.

While I do not believe that Lambatos is required to personally verify the protocols used by Cellmark to generate the DNA profile from the swab, she, at the very least, should be able to point to something concrete in order to give her opinion as to what protocols were used at the time the profile was generated. She did not. There was *no* testimony on which protocols were used. In fact, Lambatos admitted that Cellmark used procedures and standards that were different from those used by her own employer, the Illinois State Police Crime Laboratory. Although Lambatos stated that she personally "helped develop line proficiency tests to be administered to analysts at Cel[l]mark," nothing in her testimony revealed that the analysts who performed the DNA extraction and

amplification in this case had taken, let alone passed, the tests she had developed or that, when the tests were run, they were run according to the standards preferred by the Illinois State Police Lab.

The lack of any information regarding Cellmark's generation of the male DNA profile from the victim's vaginal swabs contrasts sharply with the testimony the State produced with respect to the DNA profile generated from defendant's blood sample by Karen Kooi, upon which Lambatos also relied to read and match up the numbers on her chart. Kooi, an employee of the Illinois State Police Crime Lab at the time, testified as to the protocols she used to generate the DNA profile taken from defendant's blood.[5] Kooi further stated that she utilized "clean lab" techniques when she generated the profile.

This case, therefore, differs from *People v. Sutherland*, 223 Ill. 3d 187 (2006), upon which the court primarily relies in reaching its conclusion today. There, the witness in question was an employee of the laboratory which did the DNA analysis, who not only testified at trial, but who had also testified at the *Frye* hearing. Moreover, the defendant had received from the State, pursuant to Rule 417(b), extensive information including records reflecting compliance with quality control guidelines. *Sutherland*, 223 Ill. 2d

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[5] Kooi identified the national guidelines that the Illinois State Police Crime Lab follows and testified that she followed the guidelines in this case.

at 280-81. In fact, even the defendant's own DNA expert was able to testify from the records produced that the lab's results were "clean." *Sutherland*, 223 Ill. 2d at 282. These facts render *Sutherland* distinguishable.

Two cases from our appellate court support my point regarding foundation. In *People v. Johnson*, a panel of the First Division of the First District held that a sufficient foundation was established where the DNA expert, an actual employee of Cellmark, testified that although she did not personally perform any of the testing used to generate the male DNA profile from the sexual assault kit, she based her opinion on records used in the ordinary course of business. *People v. Johnson*, 389 Ill. App. 3d 618 (2009). In particular, the witness relied on a written Cellmark report, which indicated that 10 Cellmark analysts had been involved in the lab work in the case and that all the methods used, conclusions and results reached were to a reasonable degree of scientific certainty. *Johnson*, 389 Ill. App. 3d at 626-27. Another witness, who like Lambatos was employed by Illinois State Police, testified that he compared the Cellmark-generated male DNA profile to the DNA panel he had generated from saliva obtained from the defendant and concluded that they were a match. Like Lambatos, he testified as to the statistical probabilities of the match. In holding that an adequate foundation for Cellmark's work had been established for the Cellmark witness, the court found it significant that the witness actually worked for

Cellmark, which was the lab that generated the DNA profile from the victim's samples. *Johnson*, 389 Ill. App. 3d at 629-30. She also performed an independent review of the work to make sure all of the procedures done at the lab were followed correctly, which the court held was sufficient foundation upon which to partially base her assessment and conclusion. *Johnson*, 389 Ill. App. 3d at 630. I note that the court stressed, in reaching its conclusion, that the foundational testimony was stronger than that in this case, specifically citing the Third Division's opinion in this case. *Johnson*, 389 Ill. App. 3d at 629.

Similarly, in *People v. Johnson*, 394 Ill. App. 3d 1027 (2009), a panel from the Sixth Division of the First District held that a sufficient foundation was established where the DNA expert, again an actual employee of Cellmark, testified not only about the proper procedures that were expected to be utilized at her lab, but that the case file indicated that those procedures had been followed with respect to the DNA profile in question. To reach this conclusion, the witness relied on the records of other Cellmark employees, which indicated that the proper procedures had been followed. Therefore, although the witness did not perform any of the testing, her testimony showed a sufficient foundation of Cellmark's procedures and specifications upon which to partially base her assessment and conclusion. *Johnson*, 394 Ill. App. 3d at 1040. The court stressed that the foundation in the case was stronger than that found sufficient by the appellate court in this case.

Lambatos' testimony is demonstrably different from the testimony in either of the *Johnson* opinions. Lambatos' direct testimony was based on two documents offered into evidence by the State, which consisted of two shipping manifests from FedEx. One manifest showed that the victim's vaginal swabs and blood standards were sent to Cellmark from the Illinois State Police Crime Laboratory on November 28, 2000, and were received by Cellmark on November 29, 2000. The second manifest showed that the victim's samples were "sent back from Celmark [*sic*]" on April 3, 2001, along with samples from "other cases" that had nothing to do with the present case. Lambatos testified that she relied on these two pieces of evidence when she did the work in this case. I submit that these shipping manifests are not the kind of "facts or data" contemplated by this court in *Wilson*. Unlike the witnesses in the *Johnson* cases, Lambatos was not a Cellmark employee. She did not rely on the detailed type of reports that those witnesses relied upon. She did not know who performed the tests at Cellmark nor could she testify as to what protocols, if any, they followed. The shipping manifests, which are not enough to even establish a proper chain of custody once the samples reached their destination at Cellmark, certainly cannot establish whether a laboratory was "clean" or whether Lambatos' protocols were actually followed.

By accepting Lambatos' assumption that because Cellmark was accredited, the protocols she had personally developed for the lab to use were, in fact,

used to generate the DNA profile, the court errs in finding that an adequate foundation was laid. The court relies on the fact that Lambatos used her expertise and professional judgment to compare the DNA profiles in this case. But the problem with this is that there was no foundation established for the DNA profile generated by Cellmark. Lambatos' opinion that the DNA profile generated there matched defendant's DNA profile does not change that fact. It is certainly the law that alleged infirmities in the performance of a test usually go to the weight of the evidence, not to its admissibility. Slip op. at 11. Courts should not automatically exclude scientific evidence whenever a forensic analyst deviates from a correct test protocol in minor respects; instead, the deviation would have to materially affect the outcome in order to warrant exclusion. E. Imwinkelried, *The Debate in the DNA Cases Over the Foundation for the Admission of Scientific Evidence: The Importance of Human Error as a Cause of Forensic Misanalysis*, 69 Wash. U.L.Q. 19, 46 (1991). Here, however, Lambatos could not offer any testimony to establish *any protocol*. Contrary to what the court rests its analysis upon, there is simply no foundational evidence to "weigh."

Last, and of equal importance, the court today implies that the scientific process involved in DNA analysis is "not comparable" to narcotics Gas Chromotography Mass Spectrometer (GCMS) testing because Lambatos did not "regurgitate" the results from Cellmark as experts do with respect to GCMS

test results. Slip op. at 10. Lambatos took on faith the DNA profile generated by Cellmark from the victim's samples, assuming that because the lab was accredited all quality controls were in place when the profile was created. This seems no different from how expert witnesses in drug cases view the results from the GSMS [sic] machine. Unfortunately, it has been well-documented in DNA cases that "[q]uality control and quality assurances procedures that are followed religiously in some labs are ignored or followed intermittently in others." W. Thompson, *Tarnish on the "Gold Standard": Understanding Recent Problems in Forensic DNA Testing*, 30 Champion 10, 11-12 (January-February 2006). The failure to employ quality control and quality assurance procedures can result in DNA matches in criminal cases that are wrong because of sample contamination or misconduct on the part of the technician. 30 Champion at 11-12. This explains why an adequate foundation is as essential in DNA cases as it is in drug cases. Given the impact a DNA match has on the trier of fact, courts must be vigilant in ensuring that DNA evidence is admitted with proper foundation. This is particularly so in jury cases where lay people might not be able to appreciate arguments which go to weight once they hear of a match that is one in a billion.

Based on the foregoing, I would hold that the foundation for Lambatos' testimony was insufficient, and the circuit court abused its discretion in admitting it. Based on my resolution of defendant's

foundational challenge, I need not reach defendant's sixth amendment confrontation clause argument.

Although I believe the circuit court abused its discretion by admitting Lambatos' testimony without proper foundation, the error does not require a new trial. The testimony of a single witness, if it is positive and the witness credible, is sufficient to convict a defendant. *People v. Smith*, 185 Ill. 2d 532, 541 (1999). In this case, the trial judge specifically found defendant guilty on the basis of the victim's testimony, which he characterized as "highly credible." The trial judge also commented specifically on the strength of the victim's lineup identification and her in-court identification. The judge found the victim to be "an outstanding witness" and believed her testimony "a hundred percent." These findings indicate to me that the error in admitting Lambatos' testimony was harmless. On that basis, I would affirm the convictions.

JUSTICE BURKE, concurring in part and dissenting in part:

I join the part of Justice Freeman's special concurrence that concludes that the circuit court abused its discretion in admitting Lambatos' testimony. I write separately because I disagree with the majority's resolution of the consecutive-sentencing issue. The defendant was sentenced to two concurrent natural-life terms for the aggravated criminal sexual

assault counts and a concurrent 15-year term for aggravated robbery. Defendant received an additional 60-year prison term for aggravated kidnapping, to be served consecutively to the natural-life terms. The appellate court held, pursuant to our decision in *People v. Palmer*, 218 Ill. 2d 148 (2006), that a term of years could not be served consecutively to a term of natural life. Accordingly, the court vacated that portion of the circuit court's order imposing consecutive sentences and modified defendant's sentence to impose concurrent sentences. 385 Ill. App. 3d at 371. The majority now reverses the appellate court. Relying on *People v. Petrenko*, No. 107503 (June 4, 2010), which overruled *Palmer* on this point, the majority in the case at bar has held that a sentence consecutive to a natural-life sentence was proper. For the same reasons set forth in my partial concurrence and partial dissent in *Petrenko*, I do not believe that good cause exists to overrule *Palmer*. Therefore, I would affirm the appellate court below on the consecutive-sentencing issue.

Supreme Court of Illinois
Clerk of the Court
Supreme Court Building
Springfield, Illinois 62701
(217) 782-2035

September 27, 2010

Mr. Brian Carroll
Assistant Appellate Defender
203 North LaSalle Street – 24th Floor
Chicago, IL 60601

No. 107550 – People State of Illinois, appellee, v. Sandy Williams, appellant. Appeal, Appellate Court, First District.

The Supreme Court today DENIED the petition for rehearing in the above entitled cause.

The mandate of this Court will issue to the appropriate Appellate Court and/or Circuit Court or other agency on November 1, 2010.

Supreme Court of the United States
Office of the Clerk
Washington, DC 20543-0001

William K. Suter
Clerk of the Court
(202) 479-3011

June 28, 2011

Ms. Patricia G. Mysza
Supervisor
Office of the State Appellate Defender
203 North LaSalle St., 24th Floor
Chicago, IL 60601

Re: **Sandy Williams**
v. Illinois
No. 10-8505

Dear Ms. Mysza:

The Court today entered the following order in the above-entitled case:

The motion of petitioner for leave to proceed *in forma pauperis* and the petition for a writ of certiorari are granted.

Sincerely,

/s/ **William K. Suter**
William K. Suter, Clerk

PETITIONER'S BRIEF

No. 10-8505

In The
Supreme Court of the United States

SANDY WILLIAMS,

Petitioner,

v.

PEOPLE OF THE STATE OF ILLINOIS,

Respondent.

On Writ Of Certiorari To The Supreme Court Of Illinois

BRIEF FOR PETITIONER

MICHAEL J. PELLETIER
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QUESTION PRESENTED

Whether the prosecution violates the Confrontation Clause when it presents, pursuant to a state rule of evidence, the substance of a testimonial forensic laboratory report through the trial testimony of an expert witness who took no part in the reported forensic analysis, where the defendant had no opportunity to confront the analysts who authored the report.

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The opinion of the Supreme Court of Illinois is published at 238 Ill. 2d 125, 939 N.E.2d 268 (2010). JA 143. The opinion of the Appellate Court of Illinois, First District, is published at 385 Ill. App. 3d 359, 895 N.E.2d 961 (1st Dist. 2008). JA 109.

JURISDICTION

On July 15, 2010, the Illinois Supreme Court issued an opinion affirming the judgment of the appellate court affirming Williams's conviction. The Illinois Supreme Court denied rehearing on September 27, 2010. Williams filed a timely petition for writ of certiorari on December 17, 2010. This Court granted certiorari on June 28, 2011. The jurisdiction of this Court rests on 28 U.S.C. §1254(1).

CONSTITUTIONAL PROVISIONS INVOLVED

The Sixth Amendment to the United States Constitution provides in relevant part: "In all criminal prosecutions, the accused shall enjoy the right . . . to be confronted with the witnesses against him." U.S. Const. amend. VI.

The Fourteenth Amendment of the United States Constitution provides in relevant part:

> No State shall make or enforce any law which shall abridge the privileges or immunities of

> citizens of the United States; nor shall any State deprive any person of life, liberty, or property, without due process of law; nor deny to any person within its jurisdiction the equal protection of the laws.

U.S. Const. amend. XIV §1.

STATEMENT OF THE CASE

During the investigation of the sexual assault for which petitioner Sandy Williams was convicted, the Illinois State Police sent vaginal swabs taken from the complainant to a private laboratory, Cellmark Diagnostics, in order for the lab to conduct a DNA analysis. At trial, the prosecution presented, over defense objections, the testimony of an expert witness, who took no part in the analysis of the vaginal swabs conducted by Cellmark and had no personal knowledge of the procedures and methodologies used during the analysis. The expert stated that a male DNA profile had been deduced from the vaginal swabs. The expert testified that she conducted a statistical comparison of the profile reported by Cellmark and a profile derived from Williams's blood, and found them to match. Cellmark's forensic report itself was not introduced into evidence and none of Cellmark's analysts testified at trial. While Williams's appeal was pending in the Illinois Supreme Court, this Court decided *Melendez-Diaz v. Massachusetts*, 557 U.S. ___, 129 S. Ct. 2527 (2009), holding that the Confrontation Clause is violated where the prosecution introduces

testimonial reports of forensic analysis into evidence without an opportunity for the defendant to cross-examine the analysts who authored the reports. *Id.* at 2532. Distinguishing *Melendez-Diaz*, the Illinois Supreme Court found no Confrontation Clause violation in this case, because under the Illinois version of Federal Rule of Evidence 703, Cellmark's DNA analysis was presented merely to explain the expert's opinion, not for its truth.

Trial

L. J. testified that on February 2, 2000, a man grabbed her from behind as she walked home from work. R. III92-95. The man claimed that he had a gun and forced her into a beige station wagon where he sexually assaulted her. R. III96-111. The man also took L. J.'s money and some of her personal belongings. R. III97, III101. After the assault, L. J. ran home and her mother called 911. R. III113-16. After giving the Chicago police a description of the offender and his car, L. J. was transported to the hospital where a vaginal swab and blood sample were taken and preserved in a sexual assault kit. R. III117-19, III52-55.

While L. J. was being treated at the hospital, the police stopped James McChristine, who fit the description of the offender and was driving a similar car near the scene of the attack. R. III20. When shown McChristine's driver's license, L. J. told the police that the person pictured on the license might be the

offender, but she wanted to see him in person. R. III21, III30. The police brought L. J. to the hospital parking lot to view McChristine. R. III119. An officer testified that L. J. positively identified McChristine as her attacker. R. III31. L. J., however, testified that she told the police McChristine was not her attacker. R. III119. When L. J. viewed McChristine a second time at the police station, she stated that McChristine was not her attacker, and he was released. R. III73-75. Over a year later, on April 17, 2001, L. J. identified Sandy Williams in a lineup. R. JJJ113.

Sandra Lambatos, an expert in DNA analysis who worked at the Illinois State Police Crime Lab, testified that she conducted a comparison of Williams's DNA profile and a male DNA profile deduced through DNA analysis of the vaginal swab taken from L. J., conducted by analysts at Cellmark Diagnostics, a laboratory in Germantown, Maryland. JA 49-56. Lambatos did not take part in any of the DNA analysis and no one from Cellmark testified at Williams's trial. JA 59. Defense counsel objected to Lambatos's testimony, arguing that she should not be allowed to testify about the analysis Cellmark performed to generate the DNA profile. JA 55. The trial court overruled the objection. JA 56.

The following testimony was presented regarding the DNA analysis that produced the DNA profiles Lambatos compared.

DNA analysis of Williams's blood

Manuel Sanchez, a health services employee at the Cook County Correctional Center, testified that on August 21, 2000, he received a court order to draw blood from Williams, who was in custody on a matter unrelated to this case. R. HHH16-19, JJJ6. Four drops of Williams's blood were placed on a piece of filter paper. R. JJJ7. When the blood sample dried, it was sealed in an envelope and sent to the Illinois State Police Crime Lab. R. JJJ7, JJJ15.

Karen Kooi Abbinanti, an expert in DNA analysis from the state police crime lab, testified that she conducted DNA analysis on the blood sample taken from Williams. JA 12-14. Abbinanti testified in detail regarding the procedures she followed to avoid contaminating either the samples or the testing equipment. JA 9-10. She also testified that she checked that the equipment was calibrated prior to conducting her analysis, and that she performed various controls to ensure the testing was performed correctly. JA 10, 17. She stated that she extracted a male DNA profile from Williams's blood sample and entered it into a state police data base that is used to compare DNA profiles with profiles from unsolved crimes. JA 14. She did not perform any analysis on the vaginal swabs taken from L. J. JA 16.

DNA analysis of the vaginal swabs

Brian Hapack, a forensic biologist at the state police crime lab, testified that he performed tests on

the swabs contained in L. J.'s sexual assault kit to determine whether or not any semen was present. JA 30-31. When the vaginal swabs tested positive for semen, he sealed them in an envelope and placed them in a secured freezer until further DNA analysis could be conducted. JA 31-34. Hapack also stated that he followed procedures to safeguard his work. JA 33.

Lambatos explained that during the years of 2000 and 2001, in order to reduce its backlog, the state police crime lab sent DNA samples from cases it worked on to Cellmark for analysis. JA 49-50. She testified that according to the police crime lab's shipping records, a vaginal swab and blood sample from L. J. were sent to Cellmark on November 28, 2000, and returned on April 3, 2001. JA 51-52, 54.

After providing general testimony regarding her comparison of the two profiles, Lambatos concluded that Williams could not be excluded as a source of the semen found on the vaginal swab. JA 57. She stated that "the profile would be expected to occur in approximately 1 in 8.7 quadrillion black, 1 in 390 quadrillion white, or 1 in 109 quadrillion Hispanic unrelated individuals." JA 57. Finally, she opined that the profile deduced by Cellmark matched Williams's profile. JA 58.

On cross-examination, Lambatos acknowledged that she neither examined nor conducted any testing on the vaginal swabs and that her testimony was based upon the testing conducted by Cellmark. JA 59. Cellmark's report contained four DNA profiles: one

derived from the female cells found on the vaginal swab, a mixed profile (a combination of the DNA profiles of L. J. and the donor of the sperm, which occurs when the sperm cells on a vaginal swab cannot be completely separated from the female cells), a profile derived from L. J.'s blood sample, and the male DNA profile Cellmark deduced from the mixed profile. JA 65, 67-69. Lambatos believed Cellmark produced the deduced male DNA profile by subtracting the profile derived from L. J.'s blood sample from the mixed profile, though she stated she would have followed a different procedure. JA 77. She testified that "[a]fter [Cellmark] made their deduced male donor profile, that was put into the data base and . . . the match was generated." JA 78.

Lambatos admitted that she was not aware of what procedures Cellmark followed to produce the deduced male DNA profile in this case, whether Cellmark had calibrated its equipment, or how Cellmark handled the samples once it received them. JA 59-61, 63. She also acknowledged that different platforms for DNA analysis exist and that she was not aware of what type of equipment Cellmark used in this case. JA 74-76. Although Lambatos reviewed an electropherogram[1] Cellmark produced for the mixed profile and agreed with Cellmark's results, she did not review any other electropherograms Cellmark produced

[1] An electropherogram is a graphical representation of data generated through the use of a genetic analyzer indicating the genetic markers detected in a DNA sample.

as part of its analysis or any of Cellmark's computer data. JA 62, 69, 87.

Lambatos acknowledged that the mixed profile provided by Cellmark indicated two instances of unaccounted-for genetic material (genetic markers that did not appear in L. J.'s profile and were not included in the deduced male profile), though she believed the first instance was likely background noise. JA 78-79. She did not see any evidence of sample degradation in the electropherogram for the mixed profile, or any evidence of a third person's profile being present. JA 81-82, 86.

After Lambatos testified, defense counsel moved to exclude the DNA evidence, arguing, among other things, that because no one from Cellmark testified, the admission of the evidence violated Williams's confrontation rights under this Court's decision in *Crawford v. Washington*, 541 U.S. 36 (2004). JA 90-94. The trial court denied the motion. JA 94-95.

Appeal

On appeal, Williams argued that his right to confrontation was violated where the trial court allowed Lambatos to testify regarding the DNA analysis conducted by Cellmark when he had no opportunity to cross-examine any of Cellmark's analysts. The Appellate Court of Illinois affirmed, with one justice dissenting. JA 109. The appellate court held that the Confrontation Clause was not violated because the evidence regarding Cellmark's DNA analysis did not

constitute hearsay as it was not presented to establish its truth. JA 124-27.

The Illinois Supreme Court granted Williams's petition for leave to appeal. While the case was pending, this Court issued its opinion in *Melendez-Diaz v. Massachusetts*, 557 U.S. ___, 129 S. Ct. 2527 (2009), clarifying that forensic laboratory reports are testimonial under *Crawford*. The Illinois Supreme Court affirmed the judgment of the appellate court. Noting that under Illinois rules of evidence the facts and data disclosed by a testifying expert to explain the basis of an opinion are not considered to be admitted for their truth, the Illinois Supreme Court held that Lambatos's testimony regarding Cellmark's report did not constitute hearsay. JA 162-63. Accordingly, the Illinois Supreme Court distinguished *Melendez-Diaz* and found no Confrontation Clause violation. JA 171-72.

SUMMARY OF ARGUMENT

The State violated the Confrontation Clause by presenting testimonial statements contained in Cellmark's forensic DNA report through the in-court testimony of Sandra Lambatos, who disclosed the statements when she testified that the male DNA profile deduced by Cellmark from semen recovered from the complainant matched Williams's DNA.

1. Cellmark's report was testimonial. Similar to the forensic reports found to be testimonial in this

Court's decision in *Melendez-Diaz v. Massachusetts*, 557 U.S. ___, 129 S. Ct. 2527 (2009), and *Bullcoming v. New Mexico*, 564 U.S. ___, 131 S. Ct. 2705 (2011), the report here was produced at the behest of the police in order to establish a fact used in the prosecution of a criminal case – in this case, the DNA profile of the offender. As such, the analysts who produced the DNA profile were witnesses against the defendant.

Although Cellmark's report was not itself admitted into evidence, the formal introduction of testimonial statements is not necessary to implicate the Confrontation Clause. The protections of the Clause are triggered where the substance of a testimonial statement is conveyed to the trier of fact. Lambatos's testimony that the profile she matched to Williams's profile had been derived from the complainant's vaginal swabs conveyed the substance of testimonial assertions contained in Cellmark's report, in violation of the Confrontation Clause.

Cellmark's statements were presented for their truth. The statements supported Lambatos's opinion only to the extent that they were true – if the profile reported by Cellmark was not what Cellmark claimed it to be, Lambatos's opinion regarding the match was meaningless. The probative value of Lambatos's opinion depended on the trier of fact's assessment of the accuracy or truthfulness of Cellmark's statements. Since Cellmark's statements were relevant only if true, they fell within the scope of the Confrontation Clause's protections.

The ability to cross-examine Lambatos regarding Cellmark's report did not satisfy the Confrontation Clause. The Confrontation Clause does not permit the testimonial statements of a forensic analyst to be introduced through the testimony of a surrogate witness. *Bullcoming*, 131 S. Ct. at 2710. Because Lambatos took no part in the analysis conducted by Cellmark and had no personal knowledge of the procedures Cellmark's analysts followed, the Clause did not permit her to testify as a surrogate for the analysts.

2. The rules of evidence do not create an exception to the Confrontation Clause for testimonial statements relied upon by an expert. The rationale underlying the rules allowing experts to testify regarding inadmissible evidence upon which they base their opinions is that if the evidence is reliable enough for the expert to consider in his professional capacity, it is sufficiently reliable for use at trial. This rationale directly conflicts with the Confrontation Clause since only confrontation, not reliability, satisfies the Clause. *Crawford v. Washington*, 541 U.S. 36, 61 (2004). Because Cellmark's statements were testimonial, they implicated Williams's right to confrontation regardless of whether they were sufficiently reliable to satisfy the rules of evidence governing expert witness testimony.

3. Finally, this Court held that because forensic evidence is not immune from distortion and manipulation, it is critical that a defendant be given the opportunity to test the analyst's "honesty, proficiency,

and methodology" through confrontation. *Melendez-Diaz*, 129 S. Ct. at 2536-38. Permitting the prosecution to present the testimonial statements of forensic analysts via expert testimony would allow the prosecution to perform an end run around the Confrontation Clause by depriving the defendant of the opportunity to test the accuracy of the analysts' testing procedures through cross-examination. Condoning this practice would eviscerate this Court's decisions in *Melendez-Diaz* and *Bullcoming*.

Because the Illinois Supreme Court permitted the testimonial statements of Cellmark to be admitted through the testimony of Lambatos, this Court should reverse the court's judgment.

ARGUMENT

The Confrontation Clause was violated when an expert presented a fact essential to the prosecution by recounting the substance of a forensic report produced at the behest of the police, where the expert had no knowledge of the procedures used to produce the report, and the defendant had no opportunity to cross-examine the analysts who prepared the report.

The Sixth Amendment provides that "[i]n all criminal prosecutions, the accused shall enjoy the right . . . to be confronted with the witnesses against him." U.S. Const. amend. VI. The Clause bars the admission of testimonial statements of a witness who does not testify at trial unless the witness is unavailable, and

the defendant had a prior opportunity to cross-examine that witness. *Crawford v. Washington*, 541 U.S. 36, 68 (2004). Consistent with this principle, when testimonial forensic reports are presented as evidence against a defendant, the Confrontation Clause guarantees the defendant the opportunity to test through cross-examination the "honesty, proficiency, and methodology" of the analyst who actually performed the forensic analysis. *Melendez-Diaz v. Massachusetts*, 557 U.S. ___, 129 S. Ct. 2527, 2536-38 (2009); *Bullcoming v. New Mexico*, 564 U.S. ___, 131 S. Ct. 2705, 2710 (2011).

The right to confrontation does not disappear merely because an expert witness discloses the testimonial statement during in-court testimony. The Clause does not allow the prosecution to present one person's testimonial statements through the trial testimony of another. *Crawford*, 541 U.S. at 68; *Davis v. Washington*, 547 U.S. 813, 826 (2006). So long as the forensic analyst's testimonial statements are presented for their truth, regardless of the conduit, the analyst becomes a witness the defendant has a right to confront. *Bullcoming*, 131 S. Ct. 2716. The Illinois Supreme Court erred in concluding that Sandra Lambatos's testimony disclosing the substance of the DNA analysis conducted by Cellmark did not violate the Confrontation Clause where Cellmark's report was both testimonial and presented for its truth, and Williams had no opportunity to confront Cellmark's analysts.

A. Sandra Lambatos's trial testimony disclosing Cellmark's testimonial statements violated Williams's right to confrontation.

Cellmark's forensic report is directly analogous to the forensic reports in *Melendez-Diaz* and *Bullcoming*. As in those cases, the forensic analysis was done at the behest of the police in order to establish a fact – namely, the DNA profile of the offender – to assist in the police investigation and prosecution. Without Cellmark's report, Lambatos would not have been able to link Williams to the offense by matching the DNA profile of Williams to the purported DNA profile of the offender. As in *Melendez-Diaz* and *Bullcoming*, the police submitted the recovered evidence to the forensic lab – in this case, Cellmark – for analysis. JA 49-52; *Melendez-Diaz*, 129 S. Ct. at 2530; *Bullcoming*, 131 S. Ct. at 2710. As in *Melendez-Diaz* and *Bullcoming*, the analysts tested the evidence and submitted to the police a report of their results. JA 53-55; *Melendez-Diaz*, 129 S. Ct. at 2531; *Bullcoming*, 131 S. Ct. at 2710. Notably, Lambatos testified that the police had Cellmark produce the DNA report explicitly for the purpose of prosecuting the crime. JA 82. Because Cellmark's report was made for an evidentiary purpose to assist the prosecution of this case, it ranks as testimonial. *Bullcoming*, 131 S. Ct. at 2717. Williams's right to confrontation was therefore violated where Lambatos disclosed testimonial statements of Cellmark's analysts contained in the report for the purpose of establishing their truth,

and Williams was not afforded the opportunity to cross-examine Cellmark's analysts.

1. Lambatos's trial testimony disclosed testimonial statements made by Cellmark's analysts.

Although unlike in *Melendez-Diaz* and *Bullcoming*, the written forensic report in this case was not itself introduced into evidence, the protections of the Confrontation Clause were triggered when Lambatos conveyed the substance of Cellmark's testimonial statements in her trial testimony.

a. The formal admission of a testimonial statement is not necessary for the Confrontation Clause to be implicated.

There is no requirement that a statement be conveyed verbatim at trial to be considered admitted in evidence. This Court has applied the Confrontation Clause where an in-court witness conveyed the substance of a declarant's out-of-court testimonial statements without the verbatim statements being introduced. In *Idaho v. Wright*, 497 U.S. 805 (1990), this Court held that a pediatrician's trial testimony presenting a non-detailed summation of a child's answers to his questions about sexual abuse violated the defendant's right to confrontation. *Id.* at 810-11. Similarly, this Court has applied the hearsay rule to a description of a declarant's out-of-court statement introduced at trial for its truth, although the verbatim

statement was not presented. *Moore v. United States*, 429 U.S. 20, 20-22 (1976) (police officers' testimony that a confidential informant had indicated that an apartment belonged to the defendant violated rule against hearsay where the information was used as evidence against defendant and defendant did not have opportunity to cross-examine informant). A declarant's out-of-court statement is therefore "presented" at trial where its substance is conveyed through the in-court testimony of another witness.

The principle that a witness's in-court testimony conveying the substance of another witness's testimonial statement, though not the exact statement itself, triggers the Confrontation Clause's protections has been widely recognized by other courts. For example, the in-court testimony of detectives that a witness had corroborated statements made by other witnesses, who had implicated the defendant, has been held to violate the Confrontation Clause. *Ocampo v. Vail*, No. 08-35586, ___ F.3d ___, 2011 WL 2275798 (9th Cir. June 9, 2011). Although the witness's statements themselves were never introduced at trial, the detectives' testimony conveyed to the trier of fact the critical substance of the witness's statements – that the witness implicated the defendant in the crime. *Id.* at *11-13. *See also, e.g., Favre v. Henderson*, 464 F.2d 359 (5th Cir. 1972) (officer's in-court testimony that after speaking with informants he believed to be reliable he sought to arrest the defendant violated the Confrontation Clause, even though informants' exact statements were not revealed, where the testimony

conveyed that informants had given statements implicating defendant); *Ryan v. Miller*, 303 F.3d 231, 249 (2d Cir. 2002) ("If the substance of the prohibited testimony is evident even though it was not introduced in the prohibited form, the testimony is still inadmissible.").

This principle is consistent with the underlying concerns of the Confrontation Clause. The focus of the Clause is the prosecution's *use* of *ex parte* testimonial statements against the accused without an opportunity to cross-examine the declarant. *Crawford*, 541 U.S. at 50. Whether a testimonial statement is presented verbatim or is merely summarized does not change the purpose of the prosecution's use of the statement. The opportunity to cross-examine the declarant "to tease out the truth," *Crawford*, 541 U.S. at 67, is no less vital where the substance of a witness's out-of-court testimonial statement is conveyed through the live testimony of a different witness than where the statement itself is introduced. In both instances, the declarant's assertions are evidence against the defendant. It is inconceivable that the Confrontation Clause would allow the prosecution to evade its protections by presenting a live witness to convey the substance of the out-of-court statement of a declarant where that statement could not itself be introduced verbatim. *See Davis*, 547 U.S. at 826 (the prosecution cannot evade the Confrontation Clause "by having a note-taking policeman recite the unsworn hearsay testimony of the declarant" (emphasis omitted)). Thus, a witness's in-court testimony conveying the substance

of a testimonial forensic report authored by a different witness implicates a defendant's right to confrontation just as would the formal introduction of the report itself.

b. Cellmark's testimonial assertions were conveyed through Lambatos's testimony.

Lambatos both conveyed the substance of testimonial assertions made by Cellmark and identified Cellmark as the source of the assertions. On direct examination, she stated that the state police crime lab shipped the vaginal swabs taken from the complainant and a blood standard from the complainant to Cellmark for DNA analysis, and that Cellmark later shipped its results back to the police. JA 49-55. She further indicated that Cellmark deduced a male DNA profile from the vaginal swabs. JA 55-56. After receiving the results of Cellmark's analysis, Lambatos conducted a statistical comparison of Cellmark's profile and a profile derived from a sample of Williams's blood and found that the profiles matched. JA 55-58.

Lambatos had no personal knowledge of the processes used by Cellmark to create the purported DNA profile of the offender that she compared with Williams's profile. She neither took part in the DNA analysis nor reviewed Cellmark's procedures. JA 59-61. Her knowledge of the profile was based entirely on what had been communicated to her by Cellmark. By testifying that she generated a computer match

of Williams's profile and the profile derived from the vaginal swabs, Lambatos conveyed to the trier of fact the substance of statements that had been conveyed to her by Cellmark – that Cellmark performed DNA analysis on the vaginal swabs and successfully deduced a male DNA profile from the swabs. Lambatos's testimony therefore conveyed to the trier of fact the substance of what Cellmark's analysts would have testified to had they testified at trial. It makes no difference that the report itself was not officially admitted into evidence.

Comparing what was conveyed through Lambatos's testimony to the live testimony of Karen Abbinanti, the analyst who derived the DNA profile from Williams's blood sample, is instructive on this point. Abbinanti testified that she received a blood sample taken from Williams, conducted DNA analysis on the sample, and deduced a male DNA profile from the sample. JA 12-14. Abbinanti's testimony is directly analogous to Lambatos's in-court testimony regarding Cellmark's testing of the vaginal swab. Lambatos's in-court testimony about Cellmark's testing served as a substitute for the live testimony of Cellmark's analysts.

2. Cellmark's statements were presented for their truth as the trier of fact necessarily had to accept them for their truth in order for Lambatos's opinion to have any probative value.

The Illinois Supreme Court concluded that Lambatos's disclosure of Cellmark's out-of-court statements did not implicate Williams's right to confrontation because the statements were presented not for their truth, but rather merely to explain Lambatos's opinion. JA 162-64. This reasoning does not stand up to scrutiny. If the profile reported by Cellmark was not what Cellmark claimed it to be, Lambatos's matching of the profile to Williams's profile would have no relevance. The trier of fact therefore necessarily had to assess Cellmark's statements for their truth. While the Illinois Supreme Court is correct that the Confrontation Clause does not apply to statements admitted for reasons other than their truth, *Tennessee v. Street*, 471 U.S. 409, 413-14 (1985), Cellmark's statements disclosed by Lambatos do not fall within that category.

Other courts and commentators have recognized that the "not-for-its-truth" rationale is logically incoherent where such statements support the expert's opinion only to the extent that they are true:

> To use the inadmissible information in evaluating the expert's testimony, the jury must make a preliminary judgment about whether this information is true. If the jury believes that the basis evidence is true, it will

> likely also believe that the expert's reliance is justified; conversely, if the jury doubts the accuracy or validity of the basis evidence, that presumably increases skepticism about the expert's conclusions.

David H. Kaye et al., *The New Wigmore: Expert Evidence* §3.10.1 (Supp. 2010); *New York v. Goldstein*, 843 N.E.2d 727, 732-33 (N.Y. 2005) ("The distinction between a statement offered for its truth and a statement offered to shed light on an expert's opinion is not meaningful in this context."), *cert. denied*, 547 U.S. 1159 (2006); *People v. Dungo*, 98 Cal. Rptr. 3d 702, 713 (Cal. Ct. App. 2009) ("Thus, in evaluating Dr. Lawrence's opinions concerning the cause of Pina's death, the jury was required to evaluate the truth and accuracy of Dr. Bolduc's autopsy report. In other words, the weight of Dr. Lawrence's opinions was entirely dependent upon the accuracy and substantive content of Dr. Bolduc's report."), *rev. granted*, 220 P.3d 240 (Cal. Dec. 2, 2009); Julie A. Seaman, *Triangulating Testimonial Hearsay: The Constitutional Boundaries of Expert Opinion Testimony*, 96 Geo. L. J. 827, 855-56. Put simply, if the evidence an expert relies on for its truth turns out not to be true, it does not support the expert's opinion. "[T]he permitted purpose [of considering a statement to evaluate an expert's opinion] is therefore neither separate nor separable from an evaluation of the truth of the statement's contents." Jennifer L. Mnookin, *Expert Evidence and the Confrontation Clause After Crawford v. Washington*, 15 J.L. & Pol'y 791, 816 (2007).

This case provides a perfect illustration of the above principle. Lambatos did not take part in any of the analysis that purportedly produced a DNA profile from the complainant's vaginal swabs. JA 59. She had no knowledge of and did not review Cellmark's procedures or the raw data. JA 59-61, 69. Rather, she performed the statistical matching of two DNA profiles. JA 55-57. One profile was derived from a sample of Williams's blood; the second, according to Cellmark's report, was derived from the vaginal swabs. JA 55-57. Regardless of how accurate and reliable the trier of fact found the methods Lambatos employed in matching the two profiles, if the trier of fact did not accept as true that the second profile was accurately derived from the semen recovered from the complainant, Lambatos's opinion that the two profiles matched had no evidentiary value. The trier of fact necessarily had to consider her testimony regarding Cellmark's analysis for its truth in order to evaluate the probative value of her opinion. Because Lambatos's testimony regarding Cellmark's report was presented to establish the truth of that report, it fell within the scope of the Confrontation Clause's protections. *Street*, 471 U.S. at 414 (the concerns of the Confrontation Clause are implicated where the trier of fact is asked to consider an out-of-court testimonial statement for its truth).

That Lambatos's testimony regarding Cellmark's report was introduced for its truth is made clear by comparing it to the testimony of Karen Abbinanti. Abbinanti's testimony and Cellmark's report served equivalent purposes, specifically, to establish the

identities of the DNA profiles that Lambatos compared. On direct examination, Abbinanti testified regarding her credentials as an expert, and explained the procedures she followed to ensure that the results of her analysis were accurate. JA 4-15. It cannot be seriously argued that the prosecution did not intend the trier of fact to consider Abbinanti's testimony for its truth. Similarly, had Cellmark's analysts testified live, there would have been no question that their testimony was offered for its truth. Because Lambatos's testimony regarding Cellmark's report was presented as a substitute for the live testimony of Cellmark's analysts, it, like Abbinanti's testimony, was presented for its truth. Just as Williams was provided an opportunity to confront and cross-examine Abbinanti, he was entitled to confront and cross-examine the Cellmark analysts.

This case is therefore unlike *Tennessee v. Street*, where the truth of the out-of-court statement in question was irrelevant to the purpose for which it was offered. There, the defendant attacked his confession by asserting that it had been coerced, and that the police read him the confession of his co-defendant and told him to say the same thing. 471 U.S. at 411. To rebut the defendant's claims, the prosecution offered the co-defendant's confession, which contained important differences from the defendant's confession. *Id.* at 411-12. This Court held that the introduction of the co-defendant's confession raised no Confrontation Clause concerns because the prosecution offered the confession not to prove its truth, but rather to refute

the defendant's assertion that his confession was derived from his co-defendant's. *Id.* at 414-15. Whether the co-defendant's confession was true or not was not important for that purpose.

The same, however, cannot be said of the out-of-court statements introduced here. The prosecution elicited Lambatos's testimony regarding Cellmark's testing of the vaginal swabs specifically to establish as true that the profile Lambatos matched to Williams's had been derived from the swabs. If Cellmark's statements were not true, they would not have established that fact, and Lambatos's opinion regarding the match would have no relevance. The truth of Cellmark's statements was therefore critical to the purpose for which the prosecution introduced them.

3. The opportunity to cross-examine Lambatos did not satisfy the requirements of the Confrontation Clause.

In *Bullcoming*, this Court conclusively decided that the Confrontation Clause does not allow the testimonial statements of a forensic analyst to be introduced through the trial testimony of a surrogate analyst. *Bullcoming*, 131 S. Ct. at 2710. The prosecution in *Bullcoming* offered a report of blood-alcohol testing to establish the defendant's blood-alcohol concentration at the time of his arrest, but rather than calling the analyst who conducted the testing, the prosecution called a different analyst who took no part in the testing to introduce the report. *Id.* at 2710-12.

This Court rejected the argument that the surrogate witness's expertise in blood-alcohol analysis and knowledge of the lab's general procedures qualified him to stand in the actual analyst's stead for purposes of the Confrontation Clause, noting that the "testimony of the kind [the surrogate witness] was equipped to give could not convey what [the actual analyst] knew or observed about the events his certification concerned, *i.e.*, the particular test and testing process he employed. Nor could such surrogate testimony expose any lapses or lies on the certifying analyst's part." *Id.* at 2715.

Similarly, Lambatos did not take part in nor did she review the testing procedures Cellmark followed to produce the DNA profile from the vaginal swabs. JA 59-61. Like the testing in *Bullcoming*, the DNA analysis performed at Cellmark involved a complicated multi-step process. *Bullcoming*, 131 S. Ct. at 2711 & n.1. According to Lambatos's generalized description of DNA analysis, the sperm cells on the vaginal swab had to be separated from the female cells, the amount of DNA in the samples needed to be increased "through a series of different cycles and temperature changes," there were two separate "quantitation" steps, and the DNA had to be "tagged with fluorescent markers" before it was run through a genetic analyzer and a profile could be produced. JA 48, 67, 74. Errors in any of these steps can cause the resulting profile to be inaccurate. *See* John M. Butler, *Forensic DNA Typing* 46, 67-75 (describing processes and potential errors) (2d ed. 2005). As

Lambatos's cross-examination makes clear, she was unable to describe what particular processes and protocols Cellmark's analysts followed in this case, let alone whether they were followed correctly. JA 59-61. In addition, she admitted that Cellmark followed procedures different than those used by the Illinois State Police Crime Lab and that she was not aware of the type of equipment Cellmark used to conduct the analysis. JA 60, 74-77. Indeed, Lambatos's testimony was far less adequate than that of the witness in *Bullcoming*, who at least was employed at the lab that did the testing and had personal knowledge of the lab's procedures. *Bullcoming*, 131 S. Ct. at 2712.

That Lambatos reviewed one of Cellmark's electropherograms does not make her opinion somehow independent of Cellmark's work. JA 62. The raw data collected from a genetic analyzer must first be processed to take account of the characteristic of the fluorescence markers used and the environmental conditions at the time of the testing before an electropherogram can be produced, and errors in the processing can result in the electropherogram being inaccurate. *See* Butler, *supra*, at 335-37, 378. Furthermore, as Lambatos testified, Cellmark's analysts had to perform a number of steps before a DNA sample was ever run through the genetic analyzer. Thus, Lambatos's opinion was completely dependent on Cellmark's analysts having performed the analysis correctly.

Like the surrogate witness in *Bullcoming*, Lambatos was not equipped to testify to "the particular test

and testing process [the Cellmark analyst] employed . . . [n]or could [she] expose any lapses or lies on the . . . analyst's part." *Bullcoming*, 131 S. Ct. at 2715 (footnote omitted). Because Cellmark's analysts' testimonial statements were presented as evidence against Williams, the analysts were witnesses that Williams had the right to confront. *Id.* at 2716.

B. The evidentiary rules governing expert witness testimony do not override the Confrontation Clause's requirements for the admission of testimonial statements.

The Confrontation Clause does "not permit the testimonial statement of one witness to enter into evidence through the in-court testimony of a second." *Melendez-Diaz*, 129 S. Ct. at 2546 (Kennedy, J., dissenting); *Bullcoming*, 131 S. Ct. at 2710. Nothing in the language of the Clause suggests that a court may condition the right to confrontation on the type of in-court witness who conveys to the trier of fact the testimonial statements of a second witness. U.S. Const. amend. VI; *Crawford*, 541 U.S. at 54 ("The text of the Sixth Amendment does not suggest any open-ended exceptions from the confrontation requirement to be developed by the courts."); *see also Melendez-Diaz*, 129 S. Ct. at 2534 (the Sixth Amendment "contemplates two classes of witnesses – those against the defendant and those in his favor"). A lay witness would certainly not be allowed to disclose a testimonial statement merely because it served as the basis of her in-court testimony. There is no sound

reason why this should be any different when the in-court witness happens to be an expert.

The Illinois Supreme Court's decision in this case was grounded on an Illinois rule of evidence, based upon Federal Rule of Evidence 703 ("FRE 703"), that allows an expert witness to rely on and disclose otherwise inadmissible evidence so long as the evidence is "of a type reasonably relied upon by experts in the particular field." *Wilson v. Clark*, 84 Ill. 2d 186, 192-96, 417 N.E.2d 1322, 1326-27 (1981) (adopting FRE 703); JA 172.[1] The rationale behind this rule of evidence is that if the information is of a type experts rely upon in their everyday professional capacity, it is sufficiently reliable for use at trial. *Wilson*, 84 Ill. 2d at 193, 417 N.E.2d at 1326 (citing Fed. R. Evid. 703 advisory committee note). However, it does not follow that being deemed reliable under a rule of evidence removes a testimonial statement from the Confrontation Clause's scope.

This Court has repeatedly rejected the notion that a testimonial statement's apparent reliability justifies dispensing with the requirement of confrontation. *Bullcoming*, 131 S. Ct. at 2715; *Crawford*, 541 U.S. at 61-62 ("Where testimonial statements are involved, we do not think the Framers meant to leave the Sixth

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[1] Illinois has not adopted the 2000 amendment to FRE 703 that prohibits otherwise inadmissible facts or data relied on by the expert to be disclosed unless the court determines their probative value outweighs their prejudicial effect. JA 164; Fed. R. Evid. 703.

Amendment's protection to the vagaries of the rules of evidence, much less to amorphous notions of 'reliability.'"). The Confrontation Clause "commands, not that evidence be reliable, but that reliability be assessed in a particular manner: by testing in the crucible of cross-examination." *Crawford*, 541 U.S. at 61. Accordingly, while a statement may be deemed sufficiently reliable to qualify for admission under the rules of evidence governing expert witnesses, where the statement is testimonial, "the only indicium of reliability sufficient to satisfy constitutional demands is the one the Constitution actually prescribes: confrontation." *Crawford*, 541 U.S. at 68-69.

Although the Confrontation Clause and the hearsay rules "protect similar values," *California v. Green*, 399 U.S. 149, 155 (1970), such that the traditional hearsay rules may provide some guidance as to the boundaries of the right to confrontation, *Michigan v. Bryant*, 562 U.S. ___, 131 S. Ct. 1143, 1156 (2011); *Bullcoming*, 131 S. Ct. at 2720 (Sotomayor, J., concurring in part), this does not apply to FRE 703, which was a creation of the second half of the 20th century and was intended to be an expansion of the traditional rules of evidence. Fed. R. Evid. 703 advisory committee note. Traditional hearsay exceptions can sometimes serve as guideposts to the scope of the Clause because the characteristics that make a statement fall under one of the exceptions typically also indicate the statement is not testimonial in nature. *Bryant*, 131 S. Ct. at 1157 & n.9; *Bullcoming*, 131 S. Ct. at 2720 (Sotomayor, J., concurring in part). In

contrast, FRE 703 and its state equivalents make no distinction between testimonial and non-testimonial statements, and thus provide no such guidance.

The Confrontation Clause does not, however, render FRE 703 and its state equivalents inapplicable in the criminal context. The Clause is only concerned with testimonial statements offered for their truth. *Davis*, 547 U.S. at 823-24; *Street*, 471 U.S. at 413-14. Where an expert is called by the defense, or where the out-of-court statements disclosed by a prosecution expert are not testimonial in nature or are not offered for their truth, there is no confrontation issue and the admissibility of the statements is governed by the applicable rules of evidence. *Bryant*, 131 S. Ct. at 1155; *Street*, 471 U.S. 413-14. On the other hand, where, as here, testimonial statements are offered for their truth, the Confrontation Clause controls.

C. Permitting the prosecution to introduce testimonial statements without providing an opportunity to confront the declarant, on the ground that it served as the basis for an expert's opinion, would open up a back door exception to the Confrontation Clause.

Because forensic evidence is not immune from distortion and manipulation, it is critical that a defendant be given the opportunity to test the analyst's "honesty, proficiency, and methodology" through confrontation. *Melendez-Diaz*, 129 S. Ct. at 2536-38. "Confrontation is designed to weed out not only the

fraudulent analyst, but the incompetent one as well," and "an analyst's lack of proper training or deficiency in judgment may be disclosed in cross-examination." *Id.* at 2537. These concerns do not disappear when the substance of the forensic report is disclosed through the testimony of an expert rather than introducing the report. The defendant is still prevented from testing the "honesty, proficiency, and methodology" of the analyst who produced forensic evidence in the "crucible of cross-examination." *Id.* at 2538; *Crawford*, 541 U.S. at 61.

Permitting the prosecution to present the testimonial statements of forensic analysts via expert testimony would allow the prosecution to perform an end run around the Confrontation Clause by depriving the defendant of the opportunity to test the reliability of the findings through cross-examination. Such a rule would eviscerate this Court's holdings in *Melendez-Diaz* and *Bullcoming*. For example, under such a rule, the prosecution in *Melendez-Diaz* could have easily evaded the Confrontation Clause's protections by simply having the forensic analysts who conducted the testing refrain from indicating the ultimate conclusion as to the composition of the items in their report, and introducing the forensic evidence through the testimony of an expert witness who would then opine that, based on the information received from the analysts, the items contained cocaine. The defendant's right to test the competency of the forensic analysts through confrontation, which this Court found to be critical in *Melendez-Diaz*, 129 S. Ct. at

2536-38, would simply disappear. It is inconceivable that the Framers would have condoned the use of such an evidentiary trick to evade the right to confrontation. *Crawford*, 541 U.S. at 63.

This concern is not merely hypothetical. In a California case, a medical examiner explained that he was called to present the finding of another examiner because that examiner's questionable background made the prosecutors "feel it [was] too awkward to make them easily try their cases." *People v. Dungo*, 98 Cal. Rptr. 3d 702, 708 (Cal. Ct. App. 2009), *rev. granted*, 220 P.3d 240 (Cal. Dec. 2, 2009). The California Court of Appeals concluded that because the trier of fact necessarily had to consider the testimonial statements of the non-testifying examiner for their truth in order to evaluate the opinion of the testifying examiner, the in-court testimony regarding the non-testifying examiner's findings violated the Confrontation Clause. *Id.* at 713. In addition, the court noted that the prosecution had availed itself of the rule of evidence allowing it to use a surrogate expert witness with the specific intent of preventing the defense from testing the "honesty, proficiency, and methodology" of the examiner who conducted the autopsy through cross-examination. *Id.* at 714.

In addition, the history of DNA labs, including Cellmark, providing faulty results demonstrates that the opportunity to test the honesty, proficiency, and methodology of the actual forensic analyst through cross-examination is critical. *See* William C. Thompson,

Tarnish on the 'Gold Standard:' Understanding Recent Problems In Forensic DNA Testing, 30 Champion 10, 11-12 (February 2006) (noting numerous instances of DNA labs, including Cellmark, producing faulty results both due to the failure to follow proper guidelines and to analysts manipulating data to cover up mistakes); Laura Cadiz, *Maryland-Based DNA Lab Fires Analyst Over Falsified Tests*, Balt. Sun, Nov. 18, 2004, at 1A (reporting that Cellmark fired an analyst for falsifying test data); Adam Liptak & Ralph Blumenthal, *New Doubt Cast on Crime Testing in Houston Cases*, N.Y. Times, Aug. 5, 2004, at A19 (reporting that a police DNA lab was shut down after it was discovered that analysts misinterpreted data, were poorly trained and kept shoddy records). The ability to cross-examine an expert who relied on the results of forensic testing but who took no part in the analysis, and thus has no personal knowledge of the procedures and methodologies used, does nothing to protect against fraudulent or faulty analysis.

The practice condoned by the Illinois Supreme Court in this case – presenting forensic evidence through the testimony of an expert who took no part in the analysis – greatly inhibits a defendant's ability to expose fraudulent or faulty analysis by depriving him of the opportunity to cross-examine the actual analyst, undermining this Court's holdings in *Crawford*, *Melendez-Diaz*, and *Bullcoming*.

CONCLUSION

For the foregoing reasons, the judgment of the Supreme Court of Illinois should be reversed.

Respectfully submitted,

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RESPONDENT'S BRIEF

No. 10-8505

IN THE

Supreme Court of the United States

SANDY WILLIAMS,

Petitioner,

v.

ILLINOIS,

Respondent.

ON WRIT OF CERTIORARI TO THE SUPREME COURT OF ILLINOIS

BRIEF FOR RESPONDENT

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QUESTION PRESENTED

Whether a criminal defendant's Sixth Amendment right to confront witnesses against him is satisfied where a prosecution expert testifies live at trial to her independent, expert opinions and is subject to unrestricted cross-examination.

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STATEMENT

At petitioner's 2006 bench trial in the Circuit Court of Cook County, Illinois, the following evidence was adduced.

1. On the evening of February 10, 2000, petitioner approached L.J. from behind on the sidewalk, forced her into a station wagon and ordered her to remove her clothes. R. III91-102. Inside the vehicle, petitioner vaginally penetrated L.J. with his penis while he choked her and then attempted to penetrate L.J.'s anus with his penis. R. III107-110. After the assault, petitioner pushed L.J. out of the vehicle and drove away with L.J.'s coat, money, and other items. R. III112-113. L.J. ran home, and her mother called the police. R. III113-116. Chicago police officers responded, and an ambulance transported L.J. to an emergency room where a doctor conducted a vaginal exam and took vaginal swabs, which were sealed in a criminal sexual assault evidence collection kit along with a sample of L.J.'s blood. R. III52-55, III59-63, III116-118. The items were later inventoried by a Chicago Police detective and sent to the Illinois State Police (ISP) Lab for testing and analysis. R. III73-74, III76.

On August 3, 2000, petitioner was arrested for an unrelated offense and, pursuant to a subsequent court order, a blood sample was drawn on August 21, 2000 and sent to the ISP Lab. R. HHH15-19, JJJ6-16. L.J. identified petitioner from a line-up on April 17, 2001. R. JJJ112-115. At trial, L.J. identified petitioner in court as the man who sexually assaulted her. R. III104.

2. Phlebotomist Manuel Sanchez testified that, pursuant to a court order, he drew blood from petitioner on August 21, 2000 at the health services office of the Cook County Correctional Center. R. JJJ6. Cook County State's Attorney's Office Investigator John Duffy testified that he was present for the blood draw and then hand-carried the sealed envelope containing the blood sample to the Chicago Police Department's Forensic Services Unit. R. JJJ114-JJJ115. Investigator Duffy maintained sole care and custody of the envelope until he inventoried it under Chicago Police inventory number 2391661. *Ibid.*

ISP Lab forensic scientist Karen Kooi Abbinanti[1] testified that she received Chicago Police inventory number 2391661 (consisting of petitioner's blood sample) in a sealed condition. J.A. 13-14. Using short tandem repeat (STR) DNA analysis, Abbinanti extracted a DNA profile from petitioner's blood sample. J.A. 13-15. Abbinanti entered the DNA profile into a computer database used to compare known DNA profiles with profiles from unsolved cases. J.A. 14-15.

3. Dr. Nancy Schubert testified that, at the hospital on the evening of the assault, she took vaginal swabs from L.J., which were sealed in a criminal sexual assault evidence collection kit along with L.J.'s blood sample. R. III52-55, III59-63. The sealed kit was stored in an emergency room lock box. R. III62, III70. Dr. Shubert identified People's Exhibit 1 as L.J.'s sexual assault evidence collection kit and noted her markings on the kit. R. III59-62. Chicago Police Detective Michael Baker

1. The state court decisions below refer to Abbinanti by her maiden name, Karen Kooi. J.A. 111-112, 146-147.

likewise identified People's Exhibit 1 and testified that he assumed custody of the kit at the hospital and maintained exclusive care, custody, and control of the kit until he inventoried it under Chicago Police inventory number 2276053. R. III73-76.

4. The trial court accepted ISP Lab forensic biologist Brian Hapack as an expert in forensic biology without defense objection. J.A. 30. Hapack testified that he received L.J.'s sexual assault evidence collection kit, identified by Chicago Police inventory number 2276053 and ISP Lab case number C00007770, in a sealed condition. J.A. 30-31. After opening the kit and inventorying its contents, Hapack performed two tests on the vaginal swabs that are generally accepted in the scientific community for determining whether semen is present on a sample. J.A. 31-34. First, Hapack performed the acid phosphatase test, which detects an enzyme present in semen in high concentrations, and received a "four plus" positive result, the highest indication of the presence of semen. J.A. 32. Next, Hapack performed the Abacard test, which tests for the P30 protein, and received a positive result. J.A. 32-33. Hapack repackaged and sealed both the swabs and L.J.'s blood sample in accordance with accepted procedures for preserving evidence and stored the items in a secure freezer at the ISP Lab. J.A. 34-36, 38-39. At trial, Hapack identified People's Exhibit 1 as the sexual assault evidence collection kit. J.A. 36-37. On cross-examination, Hapack testified that he used built-in controls and proper procedures when he tested the vaginal swabs. J.A. 39-42.

5. The trial court accepted former ISP Lab forensic biologist Sandra Lambatos as an expert in forensic biology and forensic DNA analysis without defense objection. J.A.

47. On direct examination, Lambatos testified generally about polymerase chain reaction (PCR) DNA testing and explained how PCR-based analysis is used to identify a male DNA profile from semen. J.A. 47-49. The analyst takes the evidence sample, which typically comes in low amounts, and multiplies it using a series of cycles and temperature changes, resulting in millions of areas of interest on the DNA molecule. J.A. 48. The analyst uses a genetic analyzer to examine the amplified DNA, and specific areas are tagged with fluorescent markers, thus generating a DNA profile that can be compared to other profiles. *Ibid.* In this way, DNA testing can be used to exclude or include a person as a possible contributor to a sample. *Ibid.* In the case of an inclusion, the alleles comprising the DNA profile are put into a frequency database to generate a statistical probability for the profile. J.A. 48-49. Lambatos testified that both PCR-based DNA analysis and the method used by the ISP Lab to determine the statistical probability of a DNA profile are generally accepted in the scientific community. J.A. 47, 49.

Lambatos further testified that, in 2000 and 2001, the ISP Lab sent evidence samples to Cellmark Diagnostics Laboratory (Cellmark) in Germantown, Maryland, to expedite the analysis of evidence and reduce the backlog at the ISP Lab, and she detailed the procedures surrounding this arrangement. J.A. 49-52. Lambatos testified that it is a commonly accepted practice in the scientific community for a DNA expert to rely on the records of another DNA analyst to complete her own work. J.A. 51. Lambatos further testified that Cellmark was an accredited laboratory. J.A. 49.

Lambatos explained that the ISP Lab sent evidence to, and received evidence back from, Cellmark in a sealed condition via Federal Express and maintained the shipping manifests in the ordinary course of business. J.A. 49-50. The manifests were housed in a secure area of the lab, used to record the chain of custody of samples, and ordinarily relied upon by analysts. J.A. 50. This method of transporting evidence was generally accepted in the scientific community. J.A. 51. Lambatos testified that samples from ISP Lab case number C00007770, specifically vaginal swabs and a victim's blood sample, were sent to Cellmark in a sealed condition via Federal Express on November 28, 2000. J.A. 51-52, 55. Lambatos identified People's Exhibit 25 as the shipping manifest documenting the shipment of these items to Cellmark and their arrival at Cellmark on November 29, 2000. J.A. 52-53. Lambatos identified People's Exhibit 26 as the return shipping manifest documenting the shipment of the vaginal swabs and blood sample from ISP Lab case number C00007770 from Cellmark to the ISP Lab on April 3, 2001. J.A. 53-55.

Lambatos testified that she was assigned to work on the instant case at the ISP Lab. J.A. 55. A computer match was generated of the male DNA profile found in semen from the vaginal swabs to petitioner's DNA profile in the database. J.A. 55-56. Lambatos compared the DNA profiles and, in her expert opinion, petitioner's profile matched the profile of the semen identified in the vaginal swabs. J.A. 56-58, 88-89. Lambatos testified that the probability of this profile occurring in the general population was approximately one in 8.7 quadrillion black, one in 390 quadrillion white, and one in 109 quadrillion Hispanic unrelated individuals. J.A. 57.

6. On cross-examination, Lambatos testified that Cellmark was an accredited laboratory; it had to meet certain guidelines to receive accreditation and to perform DNA analysis for the ISP Lab. J.A. 59-60. Lambatos further explained that calibrations and internal proficiencies had to be in place for Cellmark to perform DNA analysis. *Ibid.* While Lambatos admitted that she did not personally observe the testing of the samples at Cellmark or undertake the biological testing herself, she reviewed the electropherogram of the sperm (E2) fraction and made her own determinations, interpretations, and conclusions about the evidence after the database indicated a match to petitioner's profile. J.A. 59-66.

Lambatos also described how the ISP Lab uses the database as an investigative tool; after a database search is run and the computer identifies a match, the analysts examine the actual data to determine whether there is, in fact, a DNA match. J.A. 56-57, 65-66. Thus, after the computer generated a match in this case, Lambatos compared petitioner's DNA profile to the electropherogram of the sperm fraction. J.A. 56-57, 62, 78. Lambatos testified that she reviewed the data generated at Cellmark, in addition to Cellmark's report and allele chart, and that she independently interpreted the data when she compared it to petitioner's DNA profile. J.A. 61-62, 67-69, 87-89. Furthermore, during cross-examination, Lambatos explained how interpretation of mixtures differs from single-donor profiles and how Cellmark's process and reporting guidelines differ from those used at the ISP Lab; she also responded to defense counsel's questions regarding how she interpreted the data at particular loci. J.A. 70-74, 76-81, 83-85.

On re-direct examination, Lambatos reiterated that she performed her own interpretation of the data. J.A. 87-88. She also testified that she observed no indication of contamination or problems with the chain of custody, and that she routinely relied on DNA analysis performed at Cellmark. *Ibid.* Lambatos did not read the contents of the Cellmark report into evidence, nor was that report introduced into evidence. J.A. 42-90.

7. At the conclusion of Lambatos's testimony, petitioner moved to strike her testimony on foundational and Sixth Amendment Confrontation Clause grounds. J.A. 90-94. The trial court denied the motion, stating:

> I don't think this is a *Crawford* [*v. Washington*, 541 U.S. 36 (2004)] scenario, and I agree with the State that * * * the issue is * * * what weight do you give the test, not do you exclude it and accordingly your motion to exclude or strike the testimony of the last witness or opinions based on her own independent testing of the data received from [Cellmark] will be denied.

J.A. 94-95.

Petitioner did not present any evidence, R. JJJ122, and the trial court found petitioner guilty of two counts of aggravated criminal sexual assault and one count each of aggravated kidnapping and aggravated robbery. R. JJJ149-154.

8. The Illinois Appellate Court affirmed petitioner's convictions. J.A. 129. The court concluded that Lambatos's expert opinion testimony did not violate petitioner's Sixth

Amendment right to confrontation because Lambatos's references to the analysis completed at Cellmark were offered not for their truth, but for the non-hearsay purpose of explaining the basis of Lambatos's own expert opinion. J.A. 123-127. The appellate court also rejected petitioner's state-law arguments regarding Lambatos's testimony, finding that the State had sufficiently established both foundation, J.A. 117-120, and chain of custody, J.A. 120-123. One Justice dissented, concluding that the foundation for Lambatos's opinion testimony was insufficient as a matter of Illinois law. J.A. 130-141.

9. The Illinois Supreme Court granted leave to appeal and affirmed the state appellate court's judgment regarding Lambatos's testimony. J.A. 174.[2] Like the appellate court, the Illinois Supreme Court held that petitioner's constitutional right to confrontation was not violated by the admission of Lambatos's expert testimony. J.A. 160-173. The court reasoned that, under *Wilson v. Clark*, 417 N.E.2d 1322 (Ill. 1981), and its progeny, Lambatos's references to Cellmark's laboratory testing of the vaginal swabs were not hearsay because these references were not offered for the truth of the matter asserted. J.A. 163-165, 172. Rather, Lambatos referenced DNA testing completed at Cellmark for the limited purpose of explaining the basis of her independent expert opinion. J.A. 167, 172. Citing *Crawford*'s holding that the Confrontation Clause does not bar the admission of testimonial statements admitted for a purpose other

2. Before the Illinois Supreme Court, petitioner abandoned the chain-of-custody argument he had raised in the appellate court, but continued to challenge the foundation for Lambatos's testimony. A majority of the Illinois Supreme Court rejected petitioner's state-law foundation argument. J.A. 153-160.

than proving the truth of the matter asserted, the Illinois Supreme Court concluded that "*Crawford* considerations did not apply here." J.A. 161-162, 172. The Illinois Supreme Court also distinguished *Melendez-Diaz v. Massachusetts*, 129 S. Ct. 2527 (2009), noting that Cellmark's analysis was confined to processing the vaginal swabs and did not include the type of comparative analysis conducted by Lambatos. J.A. 167-172. The court emphasized that no Cellmark reports were introduced or read into evidence and that Lambatos testified to the application of her own expertise, judgment, and skill in interpreting the data and her general knowledge of the protocols and procedures in place at Cellmark. J.A. 171-172.

Two Justices opined in a special concurrence that Lambatos's testimony should have been excluded on state-law foundation grounds, but they concluded that this error was harmless. J.A. 174-185. The specially concurring Justices did not address the Confrontation Clause issue.

SUMMARY OF ARGUMENT

The Sixth Amendment guarantees an accused the opportunity to confront the "witnesses against him." This right applies not only to those witnesses who testify in open court, but also to those extrajudicial, testimonial statements the prosecution presents in lieu of live testimony if those statements are offered for the truth of the matter asserted. If the out-of-court statements are used for a purpose other than to prove the truth of the matter asserted, however, the Confrontation Clause is not implicated. Thus, when a scientific expert testifies at trial to her own, independent opinion, even if that opinion is derived from outside data that would be considered

testimonial hearsay if it were offered into evidence, she does so consistently with the defendant's confrontation right.

In this case, no out-of-court testimonial statements were admitted into evidence, and forensic DNA analyst Sandra Lambatos did not serve as a conduit for any hearsay, testimonial or otherwise. Lambatos relied on her own expertise and knowledge to reach an independent opinion that petitioner's DNA matched the male DNA profile present in the data she reviewed. Lambatos did not perform the laboratory tests on the DNA samples, as she candidly conceded during extensive cross-examination on that very point. The trial judge, sitting as trier of fact, recognized the limited purpose for which he could consider Lambatos's references to Cellmark and considered only Lambatos's independent expert analysis and opinions, not any work by Cellmark, as substantive evidence of petitioner's guilt. The Confrontation Clause, therefore, was satisfied when petitioner received the opportunity to cross-examine Lambatos.

Alternatively, even if the Court concludes that Lambatos's testimony included hearsay about work that Cellmark performed, any such hearsay was nontestimonial. Just as not all those questioned by police are "witnesses" under the Sixth Amendment, not all scientific reports are testimonial statements subject to the Confrontation Clause. An informal report comprised of DNA test results and machine-generated data is not produced for the primary purpose of creating an out-of-court substitute for trial testimony, but to facilitate further examination and forensic analysis of the physical evidence. Thus, such a report is not testimonial, and the scientists who generate

it are not "witnesses against" a criminal defendant under the Confrontation Clause.

Finally, and in the further alternative, if any confrontation error occurred in this case, it was harmless beyond a reasonable doubt. The prosecution's DNA evidence was independent of the victim's credible and unequivocal identification of petitioner both in a line-up and at trial as the individual who attacked and sexually assaulted her.

Accordingly, the judgment below should be affirmed.

ARGUMENT

I. THE CONFRONTATION CLAUSE DOES NOT PROHIBIT OPINION TESTIMONY OF A SCIENTIFIC EXPERT THAT IS BASED ON THE WORK OF OTHERS.

A. The Confrontation Clause Is Satisfied When An Expert Witness Testifies Exclusively To Her Own Opinion And Is Subject To Cross-Examination.

1. The Sixth Amendment provides that, "[i]n all criminal prosecutions, the accused shall enjoy the right * * * to be confronted with the witnesses against him," U.S. Const. amend. VI, and gives the accused the opportunity to cross-examine all those who "bear testimony" against him, *Crawford v. Washington*, 541 U.S. 36, 51 (2004). See also *White v. Illinois*, 502 U.S. 346, 359 (1992) (Thomas, J., concurring in part and concurring in judgment) ("critical phrase within the Clause * * * is 'witnesses against

him'"). Thus, testimonial hearsay—*i.e.* extrajudicial statements used as the "functional equivalent" of in-court testimony—may only be admitted at trial if the declarant is "unavailable to testify, and the defendant had had a prior opportunity for cross-examination." *Crawford*, 541 U.S. at 53-54. To run afoul of the Confrontation Clause, therefore, out-of-court statements introduced at trial must not only be "testimonial" but must also be hearsay, for the Clause does not bar the use of even "testimonial statements for purposes other than establishing the truth of the matter asserted." *Id.* at 51-52, 60 n.9 (citing *Tennessee v. Street*, 471 U.S. 409, 414 (1985)); see also *Michigan v. Bryant*, 131 S. Ct. 1143, 1162 (2011) (because declarant's statements will be introduced for truth of the matter asserted, those statements "must * * * pass the Sixth Amendment test"). Thus, in *Street*, on which *Crawford* relied, the Court upheld the introduction of an accomplice's confession—through the testimony of the sheriff and without in-court testimony from the accomplice himself—because the prosecution did not introduce it to establish what happened during the crime (that is, for its truth), but rather to reveal the circumstances surrounding the defendant's own confession. See *Street*, 471 U.S. at 413-414. Because the accomplice's confession was not introduced for its truth, the Sixth Amendment was satisfied by the defendant's ability to cross-examine the sheriff. See *id.* at 414 (citing *Anderson v. United States*, 417 U.S. 211, 219-220 (1974)).

Here, no testimonial hearsay was admitted into evidence against petitioner. Instead, the prosecution presented a forensic scientist who gave live, in-court testimony against petitioner, consisting of her independent expert opinion that petitioner's DNA profile matched the DNA profile data received from Cellmark, which had

been sent the vaginal swabs for testing. As the Illinois Supreme Court recognized, the expert's "testimony about Cellmark's report was not admitted for the truth of the matter asserted," but rather "to show the underlying facts and data Lambatos used before rendering an expert opinion in this case." J.A. 165. Under *Crawford* and *Street*, this was proper and did not implicate the Confrontation Clause.

2. Petitioner argues that *Street* is inapplicable because it is factually distinct, Pet. Br. 23-24, but this misses the point. Like the sheriff in *Street*, in testifying against a defendant, experts may rely on out-of-court information, even "testimonial" information, so long as it is not introduced for its truth at trial. And such a process is consistent with the very nature of expert testimony, whose value lies in the expertise the in-court witness brings to bear on an underlying body of material—material that need not be introduced independently for its own truth.

The law has long recognized this characteristic of expert testimony. See, *e.g.*, *United States v. Scheffer*, 523 U.S. 303, 317 n.13 (1998) (when polygraph examiner testifies at trial, "the evidence introduced is the expert opinion testimony of the polygrapher about whether the subject was truthful or deceptive in answering questions about the alleged crime," not the "raw results of a polygraph exam" such as the subject's pulse, respiration, and perspiration rates). Illinois Rule of Evidence 703, modeled after its federal counterpart, see *Wilson v. Clark*, 417 N.E.2d 1322, 1326-1327 (Ill. 1981) (adopting Federal Rules of Evidence 703 and 705), thus permits an expert witness to base an opinion or inference on facts or data "perceived or made known to the expert at or before the

hearing." Ill. R. Evid. 703 (2011).[3] When an expert testifies to her opinion, the facts or data on which the expert relies "need not be admissible in evidence," so long as they are "of a type reasonably relied upon by experts in the particular field in forming opinions or inferences upon the subject[.]" *Ibid.*; see also *Daubert v. Merrell Dow Pharm.*, 509 U.S. 579, 592 (1993) ("Unlike an ordinary witness, * * * an expert is permitted wide latitude to offer opinions, including those that are not based on firsthand knowledge or observation.").

The goal of Rule 703 is to "bring the judicial practice [regarding expert testimony] into line with the practice of the experts themselves when not in court." Fed. R. Evid. 703 Advisory Committee Note to 1972 Proposed Rules. Moreover, as the Illinois Supreme Court recognized below, allowing expert witnesses to explain how they formed their opinions aids the factfinder in its assessment of what, if any, weight to give the expert's opinion. J.A. 172 ("By allowing the expert to reveal the information for this purpose alone, it undoubtedly aided the judge, sitting as the factfinder, in assessing the value of Lambatos' opinion.").

3. These rules "[respect] the functions and abilities of both the expert witness and the trier of fact, while assuring that the requirement of witness confrontation is fulfilled[,]" because the expert herself is present in court and subject to cross-examination about both

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3. Prior to 2011, Illinois rules of evidence were dispersed throughout case law, statutes, and Illinois Supreme Court rules. In 2011, the Illinois Supreme Court adopted formal rules of evidence incorporating existing evidentiary law, except where noted. See Ill. R. Evid. (2011), Introduction and Committee Commentary.

her opinions and the reasonableness of her reliance on particular material. *United States v. Sims*, 514 F.2d 147, 149 (9th Cir. 1975); cf. *United States v. Wade*, 388 U.S. 218, 228 (1967) (analyzing Sixth Amendment's guarantee of right to counsel, Court noted that cross-examination of expert witnesses provided opportunity for meaningful confrontation of blood tests).

If the prosecution chooses not to call a witness with first-hand knowledge of the underlying data on which the in-court expert relies, then the prosecution gives up the ability to rely on that material for its truth, and it opens its expert to cross-examination highlighting her inability to attest to the data's origins or accuracy. For, as this Court has already made clear, "it is not the case * * * that anyone whose testimony may be relevant in establishing the chain of custody, authenticity of the sample, or accuracy of the testing device, must appear in person as part of the prosecution's case." *Melendez-Diaz v. Massachusetts*, 129 S.Ct. 2527, 2532 n.1 (2009). If the prosecution opts not to call a witness who can speak to chain of custody, authenticity, or accuracy, this decision may weaken the State's case, but it is not a Sixth Amendment violation.

In the same way, the expert who testified for the prosecution in *Delaware v. Fensterer*, 474 U.S. 15, 17 (1985) (*per curiam*), recounted his forensic conclusions, although he could not recall the methods he used to reach them. Like the expert who may not vouch for the accuracy of the underlying data, the forgetful expert in *Fensterer* raised no Sixth Amendment problem; the defense could "probe and expose" his lack of recollection "through cross-examination, thereby calling to the attention of the factfinder the reasons for giving scant weight to the

witness' testimony." *Id.* at 22. So, too, may defense counsel question the opinions of an expert who cannot speak to the origins or accuracy of underlying data (precisely as petitioner's counsel did here, see *infra* pp. 20-21).

Nor is cross-examination the only safeguard against the misuse of expert testimony. The ability to call defense witnesses, including competing experts; state rules surrounding hearsay, foundation, and limits on the admission of unduly prejudicial evidence; and due process requirements offer additional protection. See U.S. Const. amend. VI (compulsory process); *Daubert*, 509 U.S. at 596 ("Vigorous cross-examination, presentation of contrary evidence, and careful instruction on the burden of proof are the traditional and appropriate means of attacking shaky but admissible evidence."); *Bryant*, 131 S. Ct. at 1162 n.13 ("Of course the Confrontation Clause is not the only bar to admissibility of hearsay statements at trial. * * * Consistent with [state and federal hearsay] rules, the Due Process Clauses of the Fifth and Fourteenth Amendments may constitute a further bar to admission of, for example, unreliable evidence.").

4. The claim that prosecutors and lab technicians would use a favorable ruling in this case to engineer an "end run" around the Confrontation Clause is therefore misplaced. Pet. Br. 31; see also Brief for Richard D. Friedman as *Amicus Curiae* Br. 19 (suggesting that, unless the State is required to produce testing analysts at trial, prosecutors, "with the cooperation of forensic laboratory technicians, who knew exactly what they were doing," could "achieve a neat evasion of the confrontation right"). Not only does the Sixth Amendment alone prohibit abusive tactics, see *Davis v. Washington*, 547 U.S. 813,

838 (2006) (Thomas, J., concurring in the judgment in part and dissenting in part) (prosecution's attempt to use of out-of-court statements to circumvent literal right of confrontation would violate Clause, regardless of nature of out-of-court statement), but these additional state and federal safeguards provide an independent source of protection, as does the government's own self-interest in avoiding exploitable weaknesses in their expert testimony.

B. Lambatos Did Not Serve As A Conduit For The Admission Of Hearsay.

1. To be sure, a testifying expert may not step outside of her traditional role and serve as a conduit for the admission of another, non-testifying expert's opinions or other hearsay. This exception, announced in *Bullcoming v. New Mexico*, 131 S. Ct. 2705, 2710, 2716 (2011), was a straightforward application of *Melendez-Diaz*, where this Court made clear that testimonial statements about scientific evidence should not be treated differently than any other testimonial statements. See *Melendez-Diaz*, 129 S. Ct. at 2531-2533, 2542; *id.* at 2543 (Thomas, J., concurring). Just as prosecutors may not admit an eyewitness's affidavit without giving the defendant an opportunity to cross-examine that witness, they may not use certified lab reports in lieu of live testimony or offer the testimony of one expert to introduce the affidavit or other testimonial statements of another, for the truth of the matter asserted in those statements, without subjecting the out-of-court declarant to cross-examination. See *id.* at 2533-2534; *Bullcoming*, 131 S. Ct. at 2716; see also *Crawford*, 541 U.S. at 51 ("Raleigh was, after all, perfectly free to confront those who read Cobham's confession in court.").

Thus, in *Melendez-Diaz*, the prosecution offered into evidence a sworn certificate from lab analysts that the substance recovered from the defendant was cocaine, without any live witnesses testifying against the defendant in support of this conclusion. See 129 S. Ct. at 2530-2531. Likewise, in *Bullcoming*, the in-court witness parroted another analyst's blood-alcohol findings without offering any independent expert opinion. See 131 S. Ct. at 2715-2716.

In contrast, and as a host of courts have recognized, an expert who merely relies on data, without introducing it for its truth, does not violate a defendant's Sixth Amendment rights. For example, in *United States v. Turner*, 591 F.3d 928, 932-934 (7th Cir.), cert. pending, No. 09-10231 (2010), the Seventh Circuit rejected the defendant's Confrontation Clause challenge to the Government's expert witness, stating: "we see no problem with [the] expert testimony, especially in light of the fact that [the testing analyst]'s summaries, which contained some testimonial statements, were not admitted into evidence." Similarly, in *United States v. McGhee*, 627 F.3d 454, 459-460 (1st Cir. 2010), the First Circuit held that the inclusion of technical test data in a report allowed the expert witness to draw his own scientific conclusion regarding the nature of the substance and did not violate the Sixth Amendment.[4]

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4. See also *United States v. Johnson*, 587 F.3d 625, 635-636 (4th Cir.) ("*Crawford* forbids the introduction of testimonial hearsay as evidence in itself, but it in no way prevents expert witnesses from offering their independent judgments merely because those judgments were in some part informed by their exposure to otherwise inadmissible evidence"; so long as the expert's opinion is an original product that is tested on cross-examination, no Confrontation Clause problem arises), cert.

2.a. In this case, Sandra Lambatos did not step out of her role as a testifying expert and serve as a conduit for

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denied sub nom., *Martin v. United States*, 130 S. Ct. 2128 (2010); *United States v. Pablo*, 625 F.3d 1285, 1290-1295 (10th Cir.) (reviewing for plain error, DNA expert's testimony in reliance on other analysts' work did not offend Confrontation Clause), cert. pending, No. 10-9789 (2011); *United States v. Richardson*, 537 F.3d 951, 960-961 (8th Cir.) (DNA expert's testimony, informed by reports of others, was not hearsay because it related her own independent conclusion), cert. denied, 129 S. Ct. 2378 (2009); *Smith v. State*, 28 So.3d 838, 853-855 (Fla.) (Confrontation Clause not implicated where FBI lab supervisor testified to own opinion regarding DNA match and statistical analysis), cert. denied, 131 S. Ct. 3087 (2011); *Pendergrass v. State*, 913 N.E.2d 703, 705-709 (Ind.) (no Confrontation Clause violation where supervisor testified about DNA analysis and gave own opinion), cert. denied, 130 S. Ct. 3409 (2010); *State v. Gomez*, 244 P.3d 1163, 1167-1168 (Ariz.) (DNA expert's reliance on data generated by non-testifying DNA technicians in arriving at her opinion did not violate Confrontation Clause), cert. denied, 131 S. Ct. 2460 (2011); *Commonwealth v. Banville*, 931 N.E.2d 457, 466-467 (Mass. 2010) (DNA expert opinion testimony based on hearsay does not offend Sixth Amendment if expert does not testify to details of hearsay on direct examination). But see *New York v. Goldstein*, 843 N.E.2d 727, 732-734 (N.Y. 2005), cert. denied, 547 U.S. 1159 (2006) (distinction between statement offered for its truth and statement offered to shed light on testifying expert's opinion was "not meaningful" in context of forensic psychiatrist's testimony, where expert provided detailed descriptions of interviews conducted with witnesses to defendant's behavior and where prosecution "expected the jury to take those statements as true"); *Derr v. State*, 2011 WL 4483937, *14 (Md. Sept. 29, 2011) (although state rule allows expert to base opinion on inadmissible evidence, if evidence on which expert bases opinion is testimonial, then Confrontation Clause prohibits admission of such testimonial statements through testimony of DNA expert who did not observe or participate in testing).

the unconstitutional introduction of testimonial hearsay. Rather, she testified to her own, independent opinion that petitioner's DNA profile matched the male DNA profile present in the data she reviewed. She explained generally that PCR-based DNA analysis is a scientifically accepted means of identifying a male DNA profile from semen and determining whether an individual may be included or excluded as a possible donor. J.A. 47-49. Lambatos further testified that she routinely relied on DNA analysis performed by others to complete her own work, including DNA analysis performed at Cellmark, an accredited laboratory whose testing methods are generally accepted in the scientific community. J.A. 49, 51, 86-87.

Specific to this case, Lambatos indicated that L.J.'s vaginal swabs and blood sample were sent to Cellmark for profiling and that she interpreted the results of those DNA tests in conducting her own analysis. J.A. 50-57, 62, 87-88. In her independent, professional opinion, there were only two DNA profiles depicted on the electropherogram, and petitioner was the source of the male DNA. J.A. 57, 81, 86-89. During cross-examination, Lambatos openly admitted that she did not perform the laboratory tests on L.J.'s vaginal swabs. J.A. 59-61, 63, 69-70, 73-74. Rather, she explained how, using her expertise in the field of forensic DNA analysis, she was able to make her own visual and interpretive comparisons of the data she reviewed to reach a conclusion about whether petitioner's DNA profile matched the male DNA profile depicted on the electropherogram. J.A. 62, 67-69, 77-79, 84, 87-89. In fact, she specifically stated that her interpretation of the electropherogram differed from that of Cellmark at one locus, where Cellmark reported a possible allele that Lambatos opined was actually instrument-generated "background noise." J.A. 79.

To the extent Lambatos discussed Cellmark's work in delivering her opinion, she did so only for the non-hearsay purpose of explaining the basis of her expert opinion, as *Crawford* permits. See, *e.g.*, J.A. 49-58 (testifying that she was assigned to this case and that after samples were sent to Cellmark and computer database match was generated, she compared profiles and calculated statistical probability of the profile).

And, in any event, most of Lambatos's statements about work that Cellmark performed were elicited by defense counsel on cross-examination, and are therefore immaterial for Confrontation Clause purposes. See *Diaz v. United States*, 223 U.S. 442, 452-453 (1912) (accused waived right of confrontation as to testimony he put into evidence); see, *e.g.*, J.A. 58-59 (directing Lambatos to her own report, Defense Exhibit 6, as indicating that Cellmark tested vaginal swabs and victim standard); J.A. 61 (directing Lambatos to Cellmark's report dated Feb. 15, 2001).[5] In fact, petitioner's trial counsel used cross-examination and closing argument precisely as the Constitution contemplates under these circumstances—he had Lambatos concede that she was not present for Cellmark's testing, and he used her inability to vouch for the accuracy of this testing to attack the weight of her opinion. See J.A. 60-61, 63, 73-74, 86 (cross-examination); R. JJJ141-144 (closing argument).

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5. Although not admitted into evidence, the record demonstrates that trial counsel had full access to the Cellmark report. R. FFF3 (prosecutor and defense counsel inform trial judge that discovery was complete); Ill. Sup. Ct. R. 417 (mandating disclosure of "all relevant materials" related to DNA evidence).

In short, this case bears no resemblance to those in which the prosecution called in-court witnesses to summarize the substance of out-of-court conversations or an absent declarant's hearsay was used as evidence of the accused's guilt. See Pet. Br. 15-17 (discussing *Idaho v. Wright*, 497 U.S. 805 (1990), and citing *Moore v. United States*, 429 U.S. 20 (1976); *Ocampo v. Vail*, 649 F.3d 1098 (9th Cir. 2011); *Favre v. Henderson*, 464 F.2d 359 (5th Cir. 1972); and *Ryan v. Miller*, 303 F.3d 231 (2d Cir. 2002)). Indeed, petitioner himself cannot pinpoint what out-of-court statement Lambatos conveyed to the trial court or at what point in her testimony she conveyed it. Pet. Br. 18-19. This is because Lambatos confined her testimony to her own expert analysis and opinions, as the Confrontation Clause requires.

b. Moreover, it is clear that the trial judge, sitting as the factfinder in this case, understood the limited purpose for which he could consider Lambatos's references to Cellmark and that he considered only Lambatos's opinion, not any Cellmark actions, as substantive evidence of petitioner's guilt. Indeed, when the judge ruled on petitioner's motion to strike Lambatos's testimony, he specifically noted that the fact that Cellmark tested the vaginal swabs went to the weight of Lambatos's own testimony. J.A. 94-95; see also R. JJJ151-153 (verdict). Moreover, the state appellate court reviewed the record and concluded that it did "not affirmatively show that the instant trial judge considered anything but competent evidence." J.A. 126 (citing *People v. Schmitt*, 545 N.E.2d 665, 669 (Ill. 1989)). This is consistent with Illinois law, which did not permit the trial court to consider the Cellmark report, or any statements by Lambatos about steps she presumed Cellmark undertook, for their truth.

See *People v. Pasch*, 604 N.E.2d 294, 311 (Ill. 1992) ("While the contents of reports relied upon by experts would clearly be inadmissible as hearsay if offered for the truth of the matter asserted, an expert may disclose the underlying facts and conclusions for the limited purpose of explaining the basis for his opinion.") (emphasis omitted).

Federal law is to the same effect, for although the rules of evidence allow an expert to consider materials beyond her firsthand knowledge, they have never allowed an expert witness to serve as a mere conduit for "hearsay"—testimonial or not. See Fed. R. Evid. 703 Notes of Advisory Committee on 2000 amendments (noting that underlying information is not admissible simply because expert's opinion is admitted); *United States v. Mejia*, 545 F.3d 179, 197 (2d Cir. 2008). If the expert witness is called upon to disclose or discuss the basis for her opinions, either on direct or cross-examination, she may do so only for that limited purpose. See Fed. R. Evid. 703 Notes of Advisory Committee on 2000 amendments[6]; *Wilson v. Merrell Dow Pharm. Inc.*, 893 F.2d 1149, 1153 (10th Cir. 1990) (applying rule of limited admissibility before 2000 amendment to Rule 703). And a limiting instruction, if requested, may be used to ensure that juries do not consider an expert's testimony about the basis of her opinion as substantive

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6. The 2000 amendment to Federal Rule of Evidence 703 instructs federal courts not to permit disclosure of otherwise inadmissible facts or data relied upon by an expert witness "unless the court determines that their probative value in assisting the jury to evaluate the expert's opinion substantially outweighs their prejudicial effect." Fed. R. Evid. 703 (2000). When the court permits the expert witness to disclose underlying facts or data, they are admitted for the same limited purpose provided by Illinois's rule.

evidence. See Fed. R. Evid. 703 Notes of Advisory Committee on 2000 amendments (noting that appropriate limiting instruction must be given upon request); see also *Richardson v. Marsh*, 481 U.S. 200, 211 (1987) ("juries are presumed to follow their instructions").

Finally, as this Court recognized in *Bryant*, trial courts can determine in the first instance whether "any transition from nontestimonial to testimonial occurs" in the context of statements made to police officers following an emergency. 131 S. Ct at 1159. The same goes for in-court expert opinion testimony; trial (and reviewing) courts can determine whether a testifying expert functions as a true expert or a mere conduit for out-of-court testimonial material.

3. Nor is there anything to petitioner's claim that—even without parroting out-of-court declarations for their truth—every expert implicitly vouches for the accuracy of the underlying data by using it in her analysis. Relying on scholarly writings, petitioner submits that an expert's discussion of the basis of her opinion is necessarily offered for its truth because the evidentiary value of the expert's opinion depends on the accuracy of the underlying source material. Pet. Br. 20-24. But this argument proves too much, for it would run afoul of this Court's recent admonition that not everyone "whose testimony may be relevant in establishing the chain of custody, authenticity of the sample, or accuracy of the testing device, must appear in person as part of the prosecution's case." *Melendez-Diaz*, 129 S. Ct. at 2532 n.1. Petitioner's theory—that an expert vouches for the accuracy and pedigree of the underlying data merely by testifying—would require precisely what *Melendez-Diaz* says is unnecessary: calling

each person involved in the chain to testify to custody, authenticity, and testing accuracy in every case. In any event, as explained above, Illinois law did not permit the trial judge to consider for its truth anything Lambatos said (or implied) about Cellmark's work in this case, and we assume that judges follow the law, just as we assume that juries abide by limiting instructions directing them not to consider background evidence for its truth. See *supra* pp. 23-24; *Lambrix v. Singletary*, 520 U.S. 518, 531 n.4 (1997) (trial judge presumed to know law) (citing *Walton v. Arizona*, 497 U.S. 639, 653 (1990)).

II. CELLMARK'S MACHINE-GENERATED ELECTROPHEROGRAM, PRODUCED FOR THE PURPOSE OF FACILITATING FURTHER FORENSIC ANALYSIS, WAS NOT A TESTIMONIAL STATEMENT SUBJECT TO THE CONFRONTATION CLAUSE.

Even if the Court concludes that Lambatos testified to hearsay, the judgment below should be affirmed on the independent ground that such hearsay was not testimonial. In *Crawford*, this Court established that a person becomes a "witness against" the accused under the Confrontation Clause when his out-of-court "testimonial" statements are admitted against the defendant for the truth of the matter asserted. 541 U.S. at 68-69; see also *White*, 502 U.S. at 365 (Thomas, J., concurring in part and concurring in judgment) ("The federal constitutional right of confrontation extends to any witness who actually testifies at trial, but the Confrontation Clause is implicated by extrajudicial statements only insofar as they are contained in formalized testimonial materials, such as affidavits, depositions, prior testimony, or confessions.").

Here, no such formalized, extrajudicial statements were offered against petitioner at his trial. Instead, Lambatos identified the basis of her expert opinion, a machine-generated electropherogram, which was created by Cellmark for the purpose of facilitating further forensic analysis and not as a substitute for live testimony. Thus, petitioner's confrontation rights were fully satisfied when he was provided the opportunity to cross-examine the prosecution's expert witness at trial and thereby test the "honesty, proficiency, and methodology" of her testimony. *Melendez-Diaz*, 129 S. Ct. at 2538.

A. Machine-Generated Results, By Themselves, Are Not Testimonial Statements.

The term "witnesses" in the Confrontation Clause refers to those who "'bear testimony.'" *Crawford*, 541 U.S. at 51 (quoting 2 N. Webster, An American Dictionary of the English Language (1828)). In turn, this Court explained, "testimony" is typically "'[a] solemn declaration or affirmation made for the purpose of establishing or proving some fact.'" *Ibid.* Because solemnity is a human trait, and because a defendant may not cross-examine anyone other than a human being, the "witnesses" to whom the Confrontation Clause refers must logically be human witnesses. See, *e.g.*, *United States v. Lamons*, 532 F.3d 1251, 1260-1261, 1263 (11th Cir. 2008) ("In light of the constitutional text and the historical focus of the Confrontation Clause, we are persuaded that the witnesses with whom the Confrontation Clause is concerned are *human* witnesses, and that the evidence challenged in this appeal[,]" a compact disc of data from telephone calls and a call report created from the compact disc, "does not contain the statements of human witnesses") (emphasis in original).

Here, Lambatos testified that she based her expert opinion on her independent interpretation of the DNA profile data, as represented in the machine-generated electropherogram received from Cellmark. See, *e.g.*, J.A. 62, 67, 68, 78, 81, 84. An electropherogram resembles a line graph, with peaks representing the lengths of the DNA strands at the STR locations. J.A. 147-148. It is the product of electrophoresis and is generated by a laboratory instrument in the final step of DNA testing. See John M. Butler, *Fundamentals of Forensic DNA Typing* 196-200 (electrophoresis stage performed by specialized instrument) (Academic Press 2010). While there is some level of human involvement in producing an electropherogram, the same is true of any machine-generated data. This fact alone, however, does not transform such data into a human statement subject to the Confrontation Clause. See, *e.g.*, *United States v. Washington*, 498 F.3d 225, 229-231 (4th Cir.) (printed graph from chromatograph not "statement" and machine not "declarant"), cert. denied, 129 S. Ct. 2856 (2009); *United States v. Moon*, 512 F.3d 359, 361-362 (7th Cir.) (output of infrared spectrometer and gas chromatograph not "statements"), cert. denied, 129 S. Ct. 39 (2008).

When the laboratory employee's role is limited to actions such as adding chemicals to a sample, mixing chemicals, and placing samples into and running instruments, the machine output at the end of the testing process contains no assertion by the employee and is, therefore, not that employee's statement for Confrontation Clause purposes. See J. Butler, *supra*, at 99-106 (discussing steps taken during extraction); *id.* at 114-121 (outlining quantitation procedures); *id.* at 125-142 (describing amplification procedures); *id.* at 175-203 (explaining electrophoresis stage).

And here, unlike in either *Melendez-Diaz* or *Bullcoming*, the prosecution introduced no statements from Cellmark either explaining the significance of the machine-generated electropherogram or documenting or certifying the procedures used in generating the data. See *Bullcoming*, 131 S. Ct. at 2722 (Sotomayor, J., concurring in part). Instead, at most, the prosecution simply introduced the "raw data generated by a machine in conjunction with the testimony of an expert witness." *Ibid.*

B. Forensic Reports Produced Not For The Primary Purpose Of Creating Evidence For Use At Trial, But Rather For The Purpose Of Facilitating Further Forensic Analysis, Are Not Testimonial Statements.

1. Cellmark's report was not produced for the "primary purpose of creating an out-of-court substitute for trial testimony." *Bryant*, 131 S.Ct. at 1155. As such, it was not a testimonial statement subject to the Confrontation Clause. See *ibid.*

Melendez-Diaz held that the sworn reports of state forensic analysts certifying that a tested substance was cocaine were testimonial. See 129 S. Ct. at 2532. This Court reasoned that the certificates were "quite plainly affidavits" and, therefore, "fall within the 'core class of testimonial statements'" described in *Crawford*. *Melendez-Diaz*, 129 S. Ct. at 2531-2532; see also *id.* at 2543 (Thomas, J., concurring). The certificates also had a clear evidentiary purpose because, under Massachusetts law, they were admissible as prima facie evidence of the composition, quality, and net weight of the narcotic analyzed. *Id.* at 2532. Likewise, in *Bullcoming*, this Court

found that a "report of blood alcohol analysis" certifying the results of tests performed on the defendant's blood resembled the documents at issue in *Melendez-Diaz* in "all material respects" and, thus, were testimonial. *Bullcoming*, 131 S. Ct. at 2717. In so holding, the Court noted that Bullcoming's blood was provided to the lab to assist in a police investigation and that the report contained a legend referring to the municipal and magistrate courts' rules providing for the admission of certified blood-alcohol analyses in trials. *Ibid.* The Court also found that the formalities attending the certificate were "more than adequate" to qualify the analyst's assertions in the document as testimonial. *Ibid.*; see also *id.* at 2721 (Sotomayor, J., concurring in part) (formality derived from fact that non-testifying analyst signed his name and "certified" results and statements on form).

Just as "not all those questioned by the police are witnesses and not all 'interrogations by law enforcement officers' * * * are subject to the Confrontation Clause[,]" *Bryant*, 131 S. Ct. at 1153 (quoting *Crawford*, 541 U.S. at 53), not all forensic reports implicate the confrontation right. Unlike the forensic reports in *Melendez-Diaz* and *Bullcoming*, Cellmark's report here was not produced for the primary purpose of creating evidence for use at trial. Rather, it was produced for the primary purpose of facilitating further forensic analysis.

Aside from the fact that Cellmark's report was not admitted into evidence at petitioner's trial, its report differs from the documents at issue in *Melendez-Diaz* and *Bullcoming* in several crucial respects. The only thing that is clear on this record is that Cellmark's report included (a) results of DNA laboratory tests in the form of

an electropherogram, and (b) a report on those results by a laboratory employee or employees. Neither category of information constitutes a formal certification akin to an affidavit, deposition, or prior testimony. While formality is not the "sole touchstone" of the testimonial inquiry, the complete absence of any formality surrounding the documents in this case, such as a certification or oath, strongly indicates that Cellmark's report was not created with a primary purpose of being used at trial. See *Bryant*, 131 S. Ct. at 1160; *Bullcoming*, 131 S. Ct. at 2721 (Sotomayor, J., concurring in part); cf. *Davis*, 547 U.S. at 826 (Confrontation Clause cannot "readily be evaded by having a note-taking policeman *recite* the unsworn hearsay testimony of the declarant, instead of having the declarant sign a deposition") (emphasis in original).

Cellmark's report is further distinguishable from the certificates in *Melendez-Diaz* and *Bullcoming*, where the sole purpose of those certificates was to create evidence that could be admitted at trial to prove an element of the charged criminal offense. Indeed, in *Melendez-Diaz* and *Bullcoming*, the certificates contained citations to the court rules or statutory provisions that allowed them to serve as substantive evidence in a criminal trial, and thus had a clear evidentiary purpose that the certifying analyst understood when he completed them. In contrast, Cellmark's report here was an informal report that transmitted and summarized the results of DNA tests done at one laboratory to scientists at another laboratory for the purpose of facilitating further forensic analysis. It neither suggested nor served any direct evidentiary purpose.

The fact that Cellmark's report was comprised of documents that could only be understood by other scientists

further demonstrates that its primary purpose was not to create evidence for use at trial. See *Bryant*, 131 S. Ct. at 1160-1161 (primary purpose of police interrogation, in many instances, may be most readily ascertained by looking at the "contents" of questions and answers). The absent analyst's certification that Bullcoming's blood alcohol concentration was 0.21, which was above the legal limit, and the analyst's conclusion that the items seized by the police in *Melendez-Diaz* contained cocaine, could be understood by the average juror or judge and required no further explanation or interpretation before they could serve a meaningful evidentiary purpose. In contrast, an electropherogram and a chart listing alleles at thirteen STR locations would have been meaningless to the fact-finder in this case. Nor could the presence of a male DNA profile on the electropherogram prove an element of the charged criminal offense. The fact that Cellmark's report could not serve as an alternative to trial testimony strongly suggests that it was not made with that purpose in mind.

2. Petitioner submits that "Cellmark's forensic report is directly analogous to the forensic reports in *Melendez-Diaz* and *Bullcoming*" because it was prepared "at the behest of the police in order to establish a fact—namely, the DNA profile of the offender—to assist in the police investigation and prosecution." Pet. Br. 14. To be sure, Cellmark completed DNA testing on the samples in this case at the request of the ISP Lab,[7] and, during

7. While certain Cellmark employees were undoubtedly aware that some of the samples they tested in their laboratory during 2000-2001 were obtained from the ISP Lab, it is unclear whether the scientists who performed DNA tests on samples or reported those test results knew anything more about the case they were processing than the case numbers of the samples they tested.

cross-examination, Lambatos answered affirmatively when asked whether "the reports that you prepared in this case and all reports in this case were prepared for this criminal investigation" and "for the purpose of the eventual litigation here[.]" J.A. 82. But Cellmark was not tasked with identifying an "offender" in this case, contrary to petitioner's suggestion. Cellmark did not process any suspect's blood sample or compare their test results to any male DNA profiles—Cellmark simply extracted DNA profiles from the samples it received, deduced a profile for the male DNA, and reported its results for the purpose of facilitating further forensic analysis at the ISP Lab.

In sum, on this record it cannot be said that the documents in Cellmark's report were generated with a primary purpose of creating an out-of-court substitute for trial testimony. Thus, contrary to petitioner's contention, Cellmark employees were never "witnesses against him" for Confrontation Clause purposes.

III. IF THE TRIAL COURT ERRED IN ADMITTING ANY PART OF LAMBATOS'S TESTIMONY, THE ERROR WAS HARMLESS BEYOND A REASONABLE DOUBT.

Even if error, the admission of any part of Lambatos's testimony was harmless beyond a reasonable doubt. See *Bullcoming*, 131 S. Ct. at 2719 n.11 (Confrontation Clause errors are subject to harmless error inquiry); *Delaware v. Van Arsdall*, 475 U.S. 673, 683-684 (1986) (same). Lambatos's testimony was independent of the victim's credible and unequivocal identification of petitioner in a line-up and again at trial as the individual who attacked and sexually assaulted her. R. III104, III120-121 (victim's

in-court identification of petitioner and testimony about line-up identification); R. JJJ112-118 (Chicago Police Detective Robert McVicker's testimony regarding line-up). Petitioner was found guilty following a bench trial, where the trial judge specifically discussed the strength of the victim's identifications and the credibility of her testimony, and where the judge's comments about the DNA evidence demonstrate that he was not swayed by any perceived infallibility of DNA analysis or evidence. R. JJJ149-154 (verdict); see also J.A. 184-185 (wherein concurring Justices of the Illinois Supreme Court found any foundational error in admission of Lambatos's testimony harmless). Thus, if this Court concludes that the admission of Lambatos's testimony, in whole or in part, violated the Confrontation Clause, any error was harmless beyond a reasonable doubt. The judgment of the Supreme Court of Illinois, therefore, should be affirmed.

CONCLUSION

The decision of the Supreme Court of Illinois should be affirmed.

Dated: October 19, 2011

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REPLY BRIEF

No. 10-8505

In The
Supreme Court of the United States

SANDY WILLIAMS,

Petitioner,

v.

PEOPLE OF THE STATE OF ILLINOIS,

Respondent.

On Writ Of Certiorari To The Supreme Court Of Illinois

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REPLY BRIEF FOR PETITIONER

Lambatos's trial testimony conveyed the substance of testimonial statements contained in Cellmark's forensic report in violation of Williams's right to confrontation.

A. Lambatos's trial testimony clearly conveyed Cellmark's testimonial statements to the trier of fact.

The United States asserts that Williams "implicitly acknowledges that Lambatos's direct testimony did not repeat anything Cellmark said" (U.S. Br. 31) (citation omitted), and the State claims that Williams cannot "pinpoint" what statement by Cellmark Lambatos conveyed to the trier of fact. Resp. Br. 22. Both claims are false. As Williams set forth in his brief, Lambatos conveyed to the trier of fact through her direct testimony that Cellmark conducted the DNA analysis on the complainant's vaginal swabs and that Cellmark reported a male DNA profile found on the swabs. Pet. Br. 18-19. After establishing that a vaginal swab and blood standard from the complainant had been sent to Cellmark, the prosecution asked the following question:

> [Prosecutor]: Was there a computer match generated of the male DNA profile found in the semen from the vaginal swabs of [L. J.] to a male DNA profile that had been identified as having originated from Sandy Williams?
>
> [Lambatos]: Yes, there was.

JA 51-56. Lambatos took no part in and had no personal knowledge of the DNA analysis conducted on the samples in this case. JA 59-61. Her belief that the profile she compared with Williams's profile was the profile of the male donor of the sperm found on the vaginal swabs was based upon what Cellmark had represented in its report. Lambatos's testimony therefore conveyed Cellmark's statement that the complainant's vaginal swab contained a male DNA profile which, as indicated by a subsequent comparison, matched Williams's DNA profile. JA 49-56. Cellmark's statement was a critical aspect of Lambatos's testimony because without it, Lambatos's opinion regarding the matching profiles would not have linked Williams's to the crime.[1]

B. Cellmark's testimonial statements were presented to establish as true that the profile Lambatos compared with Williams's profile came from the complainant's vaginal swab.

The State and its *amici* invoke the rules of evidence governing expert witnesses to argue that there was no Confrontation Clause violation because Lambatos testified to her own independent opinion, and that Cellmark's statements were introduced for the limited purpose of assisting the trier of fact in

---

[1] Neither the State nor the United States contend an out-of-court witness's statement must be presented verbatim in order for the Confrontation Clause to be implicated.

assessing the value of that opinion, not for their truth. Resp. Br. 11-21; U.S. Br. 12-26; Br. of National District Attorneys Association *et al.* ("NDAA") 9-15; Br. of Ohio *et al.* ("Ohio") 9-13. The State and the United States further argue that it must be presumed that the trial judge did not consider for their truth any of Cellmark's out-of-court statements. Resp. Br. 22-25; U.S. Br. 19-21. Finally, the United States contends that the prosecution established the link between the two profiles through circumstantial evidence. U.S. Br. 28-33. These arguments all fail as they are premised on a misapprehension of the facts and based upon faulty logic.

1. **Lambatos's opinion that Williams's DNA profile matched the male DNA profile Cellmark deduced from the complainant's vaginal swab was in no way independent of Cellmark's work.**

The State contends that Lambatos's opinion was totally independent of Cellmark's work because she based her opinion on her review of the machine-generated data depicted in an electropherogram she received from Cellmark. Resp. Br. 20, 26. This argument is refuted by Lambatos's own testimony. Lambatos did not perform any of the testing on the samples, and her opinion was based upon the testing performed by Cellmark. JA 58-59 ("Q: And you based your testimony on testing that was done by that other lab, correct? A: Correct."). She repeatedly stated that it was the male profile reported by Cellmark that she compared with Williams's profile, explicitly stating

that "after [Cellmark] made their deduced male donor profile, that was put into the data base and then it was generated, the match was generated." JA 61, 65, 78. Even the Illinois Supreme Court recognized that Lambatos relied on the profile deduced by Cellmark to conduct the match. JA 167. The United States also acknowledges this fact. U.S. Br. 11 ("The State's DNA expert opined that the DNA profile from petitioner's blood matched the male DNA profile provided by Cellmark.").

Moreover, Lambatos would not have been able to link Williams to the sperm found on the vaginal swab had she relied solely on the raw output of the genetic analyzer. An electropherogram is a graph plotting the output of the genetic analyzer's fluorescence detectors as a function of time. John M. Butler, *Fundamentals of Forensic DNA Typing* 183, 206 (2010). Accordingly, the statements in Cellmark's report indicating what sample was analyzed to produce the deduced male profile were not revealed in the raw output of the machine. *See Bullcoming v. New Mexico*, 564 U.S. ___, 131 S. Ct. 2705, 2714 (2011) (analyst's statements "that the forensic report number and the sample number 'correspond[ed],' and that he performed on Bullcoming's sample a particular test . . . [were] not revealed in raw, machine-produced data"). Those statements were human-made representations regarding past events and human actions, and were, therefore, "meet for cross-examination." *Bullcoming*, 131 S. Ct. at 2714.

Additionally, deducing the male profile involved more than just looking at the one electropherogram Lambatos received. Lambatos testified that she received an electropherogram only for the E2 fraction of the vaginal swab. JA 61, 69. Because Cellmark was not able to completely separate the sperm cells from the complainant's epithelial cells, the E2 fraction contained DNA from both the complainant and the donor of the sperm. JA 67-68. Lambatos stated that when interpreting such a mixed profile, the male profile is deciphered by looking at the mixed "profile and *all the information that we are given*." JA 83-84 (emphasis added). She explained that in order to deduce which alleles possibly came from the male donor, and, thus, deduce the donor's DNA profile, the mixture of alleles in the E2 fraction were compared with the alleles present in the complainant's profile. JA 77, 83-84. However, Lambatos only received Cellmark's interpretation of the alleles present in the complainant's DNA, and not an electropherogram of the complainant's DNA. JA 62, 69. Even if Lambatos reviewed the information she received from Cellmark and agreed with Cellmark's conclusions, she still relied on the correctness of Cellmark's interpretations – interpretations that the State's own *amici* (Br. of Ohio 14) concede are testimonial statements. This is not a case of an expert giving an opinion based solely on machine-generated data.

The recent decision in *Derr v. State*, ___ A.3d ___, 2011 WL 4483937 (Md. Sept. 29, 2011), is instructive on this point. There, as here, the prosecution presented DNA evidence against the defendant through

the live testimony of an expert who did not take part in the actual testing but who gave her opinion that the defendant's profile matched the profile deduced from semen recovered from the victim. *Id.* at *2-3. The Maryland Court of Appeals held that this testimony violated the defendant's right to confrontation. *Id.* at *18-20. Relying on this Court's holding in *Crawford v. Washington*, 541 U.S. 36 (2004); *Melendez-Diaz v. Massachusetts*, 557 U.S. ___, 129 S. Ct. 2527 (2009), and *Bullcoming*, the court concluded that while under Maryland's version of Federal Rule of Evidence (FRE) 703 an expert may base her opinion on inadmissible evidence, the Confrontation Clause prohibits the introduction of the testimonial statements of other analysts through the testimony of an expert who did not observe or participate in the testing. *Id.* at *5-14. Although the expert stated that she interpreted the testing in coming to her opinion, the court held that because the expert's opinion relied on the lab work and opinions of others, she did not testify simply to her own independent conclusions. *Id.* at *18. According to the court, "although [the expert] used the data to inform her testimony, the data itself was both substantive and testimonial." *Id.* at *15.

Because Lambatos's opinion depended on the work and opinions of Cellmark's analysts, her testimony was not limited to merely her own independent conclusions. *See Derr*, 2011 WL 4483937, at *17-19. In testifying that the profile she compared with Williams's profile had been deduced by Cellmark through DNA analysis of the complainant's vaginal

swab, rather than voicing her own independent opinion, Lambatos acted as a conduit for Cellmark's testimonial statements. *United States v. Meija*, 545 F.3d 179, 198-99 (2d Cir. 2008) (Confrontation Clause violated where expert relayed out-of-court testimonial statements to trier of fact); *Derr*, 2011 WL 4483937, at *14.

That Lambatos also provided her opinion that the two profiles matched does not alter this analysis. The fact that the profile Lambatos compared to Williams's was derived from the vaginal swab was a fact the prosecution had to establish as true in order for DNA evidence to link Williams to the crime. Had the prosecution established that fact by introducing Cellmark's written report into evidence, it would clearly be a violation of Williams's confrontation right. *See Bullcoming*, 131 S. Ct. at 2710; *Melendez-Diaz*, 129 S. Ct. 2532. There is no principled reason why it should be any different when, as here, the fact is established by presenting the substance of Cellmark's report through the testimony of an in-court witness. In each case, the same testimonial statements are coming in for the same evidentiary purpose.

2. Cellmark's statements were presented for their truth where the value of Lambatos's opinion depended on the truth of the statements.

Williams has explained that because Cellmark's statements supported Lambatos's opinion only to the extent they were true, there is no meaningful

distinction between considering the statements to assess the value of Lambatos's opinion and considering them for their truth. Pet. Br. 20-24; Br. of Friedman 11-12; *see, e.g.*, *Derr*, 2011 WL 4483937, at *14; *New York v. Goldstein*, 843 N.E.2d 727, 732-33 (N.Y. 2005). Nevertheless, the State and its *amici* argue that the introduction of Cellmark's statements did not implicate the Confrontation Clause because, under the rules of evidence governing expert witnesses, the statements were introduced not for their truth, but for the limited purpose of assisting the trier of fact in assessing the value of Lambatos's testimony. Resp. Br. 13; U.S. Br. 16-17, 32; Br. of NDAA 9-15; Br. of Ohio 9-13. Not surprisingly, they offer no explanation of how Cellmark's statements could have so assisted the trier of fact without the trier of fact considering whether the statements were true.

If Cellmark's statements were introduced for reasons other than their truth, whether they were true or not would have no consequence for the purpose for which they were introduced – to assist in the evaluation of Lambatos's opinion. *Cf. Tennessee v. Street*, 471 U.S. 409, 413-14 (1985) (co-defendant's confession introduced to impeach the defendant was not admitted for its truth, and therefore, did not violate defendant's confrontation right where it impeached the defendant even when considered untrue by the trier of fact). Obviously, that is not the case here. Had Lambatos admitted that the profile she compared with Williams's profile was not the profile of the male donor of the sperm found on the vaginal swabs, it

would be beyond question that Lambatos's opinion would have no value.

a. The trial judge considered Cellmark's statements for their truth.

The State and the United States contend that because Illinois evidentiary law instructs that the inadmissible facts and data an expert witness discloses to explain the basis of her opinion are to be considered only in assessing the value of the expert's opinion, and not for their truth, the trial court in this case must not have considered Cellmark's statements for their truth. Resp. Br. 22; U.S. Br. 20. This argument is predicated on the false premise that the trier of fact could have considered Cellmark's statements in assessing the value of Lambatos's opinion without also considering whether the statements were true. In any event, the record demonstrates that the trial judge did consider Cellmark's statements for their truth.

Illinois evidentiary law does not absolutely prohibit the trier of fact from considering the otherwise inadmissible basis evidence disclosed by an expert witness; rather, the law allows, and even expects, the trier of fact to consider such evidence in assessing the value of the expert's testimony. *People v. Lovejoy*, 235 Ill. 2d 97, 143, 919 N.E.2d 843, 867 (2009) (allowing an expert to disclose the facts and conclusions underlying his opinion "will undoubtedly aid the jury in

assessing the value of his opinion").[3] Indeed, both the State and the United States acknowledge that the trial judge in this case did in fact consider Cellmark's statements in assessing the value of Lambatos's opinion. Resp. Br. 22; U.S. Br. 32. Because Cellmark's statements supported Lambatos's opinion only to the extent they were true, there is no meaningful distinction between considering the statements to assess the value of Lambatos's opinion and considering them for their truth. By considering Cellmark's statements to assess the value of Lambatos's opinion, the trial judge had to consider them for their truth.

The United States asserts that the trial court relied on circumstantial evidence, rather than on Cellmark's out-of-court statements, to establish the link between the profile Lambatos matched to Williams's profile and the complainant's vaginal swab. U.S. Br. 28-33. Even assuming that in some cases the prosecution could rely on such circumstantial evidence, that

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[3] Throughout its brief, the United States refers to that fact that under FRE 703 "[f]acts or data that are otherwise inadmissible shall not be disclosed to the jury by the proponent of the opinion or inference unless the court determines that their probative value in assisting the jury to evaluate the expert's opinion substantially outweighs their prejudicial effect," Fed. R. Evid. 703, in support of its claim that the trial court in this case must not have considered Cellmark's statements. U.S. Br. 10, 16, 27. Illinois, however, has not adopted that language, and therefore, an expert is free to disclose the inadmissible facts she relied upon without the court first conducting a balancing of their probative value and prejudicial effect. *Lovejoy*, 235 Ill. 2d at 143-44, 919 N.E.2d at 869; Ill. R. Evid. 703 (2011).

is not what happened in this case. Here, the prosecution introduced Cellmark's statements that they deduced a certain DNA profile from the vaginal swabs (JA 51-56), and the record demonstrates that the trial court considered those statements for their truth.

Although a trial judge sitting as trier of fact is presumed to follow the law, that is a rebuttable presumption. *People v. Naylor*, 229 Ill. 2d 584, 603-05, 893 N.E.2d 653, 665-67 (2008) (presumption that trial judge considered only admissible evidence rebutted by the record). Here, the record established that the trial judge did consider Cellmark's statements for their truth. Not once did the trial court indicate he considered circumstantial evidence, rather than Cellmark's statements, in finding that the DNA evidence linked Williams to the crime. Rather, in explaining his finding of guilt, the judge stated:

> [A]ccording to the evidence from the *experts*, [Williams's DNA] is in the semen recovered from the victim's vagina. . . .
>
> . . . [T]here is no misidentification here. This is a match, this is 1 in 8.7 quadrillion, 50 times the population for the last 2000 years. It's an absolute match. . . .
>
> . . . This was a mixture between two people – the victim and the offender. The offender was defendant.

R. JJJ151-52 (emphasis added). It is inconceivable that the judge would not have made *any mention* of the sufficiency of the circumstantial evidence had

that been what he based his findings on. The prosecution also encouraged the judge to consider Cellmark's statements for their truth by arguing in closing statements that "the DNA evidence . . . shows that [Williams's] semen was in her vagina," and by eliciting from Lambatos that Cellmark conducted the DNA analysis on the vaginal swabs, that Cellmark was an accredited lab, and that the procedures Cellmark followed were generally accepted in the scientific community. JA 49, 51, 59, 86; R. JJJ132. Indeed, in articulating his findings, the judge commented that Cellmark was an accredited lab, indicating that he had been persuaded by the prosecution's arguments and that he found Cellmark to be credible. R. JJJ151.

Had the trial judge not considered Cellmark's statements for their truth, it would be expected that at some point he would have indicated as much when the defense challenged Lambatos's reliance on the statements. However, he never did. When overruling defense counsel's objections to Lambatos's direct testimony, the judge never stated that he was not considering Cellmark's statements for their truth. JA 49-58. In addition, in sustaining the objection to defense counsel asking Lambatos "if the results in [Cellmark's] data were wrong, would any matches be wrong?" the court indicated it would not entertain the possibility that Cellmark's statements were wrong because the question required "[s]peculation with no basis of fact." JA 69-70. If the court was not considering the statements for their truth, it would have sustained the objection on that basis – not on the incorrect basis

(since this was a hypothetical question) that the defense had not presented any evidence that Cellmark's results might have been wrong. Because the only possible speculation here was that Cellmark's results were wrong, the judge's comments demonstrate that he took them as truthful.

The United States' argument would only make sense if there was no direct evidence presented of what Cellmark did, but the prosecution *did* present such evidence through Cellmark's out-of-court statements. Never once in either responding to defense's objections to Lambatos's testimony regarding Cellmark's statements, or in closing statements did the prosecution argue that the court could ignore that testimony because the circumstantial evidence sufficiently linked Williams to the sperm on the vaginal swab. JA 55-56, 90-93. Had the prosecution intended to rely solely on circumstantial evidence, one would think they would have made that specific argument at some point. Furthermore, the only evidence the prosecution produced that could be described as circumstantial was the shipping records. JA 52-54. Those records proved only that the samples were shipped to Cellmark and were eventually returned. This evidence says nothing about whether Cellmark performed testing on the samples, what testing was performed, or what the results were. Nothing in this record supports the United States' claims.

Additionally, contrary to the United States' suggestion, Williams's argument does not depend upon a *Bruton*-type narrow exception to the general rule

about juror competence. U.S. Br. 19-21 (discussing *Bruton v. United States*, 391 U.S. 123 (1968) and *Richardson v. March*, 481 U.S. 200 (1987)). In the *Bruton* context, a statement may be used properly in one way but not in another – that is, against one defendant but not against another – and a defendant contends that the jury cannot be expected to follow an instruction drawing the distinction. But in this case, Williams's contention is not based on a perceived inadequacy of the trier of fact. Rather, Williams contends that in this setting the use cited by the State (support of the expert's opinion) *necessarily entails, as a matter of logic*, the use prohibited by the Confrontation Clause (proof of the truth of Cellmark's statements). Moreover, here, the record affirmatively shows that the judge used the evidence in a prohibited manner, hence, there is no need to rely on a *Bruton*-type presumption.

b. That a statement is admissible under local rules of evidence governing expert witnesses does not mean it is admissible under the Confrontation Clause.

Contrary to *amici*'s assertion (Br. of NDAA 13; Br. of Ohio 11), finding that Williams's right to confrontation was violated in this case does not require this Court to abrogate or invalidate FRE 703 and its state equivalents. *See* Pet. Br. 30; Br. of Friedman 22-26. The Confrontation Clause is concerned only with testimonial statements that are conveyed to the trier of

fact in order to establish the truth of assertions made in them. *Davis v. Washington*, 547 U.S. 813, 823-24 (2006). If no out-of-court statements are conveyed, or if the statements that are conveyed are non-testimonial, an expert's testimony would not implicate a defendant's right to confrontation. There also is no violation where an expert conveys the testimonial statements of another so long as that other witness testifies at trial.[3]

In *United States v. Johnson*, 587 F.3d 625 (4th Cir. 2009), a drug trafficking conspiracy case, two experts on drug trafficking testified that certain words used by the defendant in recorded calls were terms for narcotics. 587 F.3d at 633-34. The experts stated that their opinions were based on their professional experience, unusual speech patterns used by the conspirators, interviews, and other information they received about the case. *Id.* at 634. However, there was no confrontation issue because the experts did not disclose any statements, and the trier of fact was not required to accept as true any particular testimonial statements in order to accept the experts' opinions.

On the other hand, where, as here, an expert witness presents the testimonial statements of another, the Confrontation Clause's protections are triggered. *See, e.g.*, *Derr*, 2011 WL 4483937, at *14; *Goldstein*, 843 N.E.2d at 732-33.

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[3] And of course, a holding in Williams's favor would have no bearing on the applicability of FRE 703 in civil cases.

In its attempt to distinguish *Goldstein*, the United States proves Williams's point. The United States contends that while the statements disclosed by the expert in *Goldstein* may have violated the Confrontation Clause, the situation in this case is different. U.S. Br. 25-26. As such, the United States essentially concedes that the not-for-its-truth rationale for allowing in otherwise inadmissible evidence under FRE 703 and its state equivalents cannot be universally applicable, and so proves too much. Moreover, the United States' contention (U.S. Br. 26) that *Goldstein* is distinguishable from this case because this case involved "analytic work" is nothing more than a repeat of the forensic-evidence-is-different argument rejected in *Melendez-Diaz*. 129 S. Ct. at 2536-38.

Essentially, the argument of the State and its *amici* is that because expert witnesses and lay witnesses are treated differently by the modern rules of evidence, they should be treated differently by the Confrontation Clause. However, this Court has noted that expert witnesses are "hardly [an] 'unconventional' class of witnesses." *Melendez-Diaz*, 129 S. Ct. at 2535. Furthermore, the Clause "contemplates two classes of witness – those against the defendant and those in his favor. . . . [T]here is not a third category of witness, helpful to the prosecution, but somehow immune from confrontation." *Id.* at 2534. The Clause does not provide for a general exemption for expert witnesses. *Crawford*, 541 U.S. 36, 54 ("The text of the Sixth Amendment does not suggest any open-ended

exemptions from the confrontation requirement to be developed by the courts.").

C. Williams's ability to cross-examine Lambatos did not satisfy his right to confrontation.

The State and its *amici* argue that the opportunity to cross-examine Lambatos satisfied Williams's right to confrontation because it allowed Williams to challenge the case against him by pointing out to the trier of fact that Lambatos could not personally verify the accuracy of Cellmark's work. Resp. Br. 15; U.S. Br. 18-19; Br. of Ohio 25. "[T]he Clause does not tolerate dispensing with confrontation simply because the court believes that questioning one witness about another's testimonial statements provides a fair enough opportunity for cross-examination." *Bullcoming*, 131 S. Ct. at 2716. The opportunity to confront Lambatos about her reliance on Cellmark's testimonial statements did not provide Williams with the opportunity to confront Cellmark's analysts about their testimonial statements that had been presented against him. It is the latter that the Confrontation Clause requires. *Crawford*, 541 U.S. at 68.

Accordingly, the State's attempt (Resp. Br. 15) to analogize this case to *Delaware v. Fensterer*, 474 U.S. 15 (1985), is to no avail. Unlike Williams, the defendant in *Fensterer did* have the opportunity to confront the witness against him, and therefore, the Clause was satisfied. 474 U.S. at 18-20.

D. Cellmark's report was testimonial as it was a written document prepared at the request of the police during the course of a criminal investigation for purposes of establishing a fact used in the prosecution of the crime in question.

Cellmark's report is materially similar to the forensic reports in *Melendez-Diaz* and *Bullcoming*: in each of these cases, forensic analysis was done and the report was prepared at the behest of the police in order to establish a fact used in the prosecution of the crime in question; each of the reports, therefore, was testimonial. Pet. Br. 14; *Melendez-Diaz*, 129 S. Ct. at 2530-31; *Bullcoming*, 131 S. Ct. at 2710.

The State tries to avoid this obvious conclusion by making two arguments: that the electropherogram contained in the report constituted non-testimonial machine-generated data, and that the report was made for purposes other than creating evidence for use at trial. Resp. Br. 25-32. The first claim fails because, even assuming the machine-generated data on the electropherogram is not testimonial, as discussed earlier, *supra* Part B.1, Lambatos did not rely merely on the electropherogram for the E2 fraction she received from Cellmark. The second claim fails because Cellmark's report was clearly made for an evidentiary purpose.

Although the State initially contends Cellmark's report was not made for an evidentiary purpose, it later concedes that the report was prepared specifically for the purpose of litigation. Resp. Br. 28-32;

Bullcoming, 131 S. Ct. at 2713-14; *id.* at 2720 (Sotomayor, J., concurring) (documents made for the purpose of establishing evidence for trial are testimonial).

The State's concession aside, the argument that Cellmark's report was not testimonial because it only "facilitated further forensic analysis" is unconvincing. Resp. Br. 29. Statements taken by the police during the course of a criminal investigation fall squarely within the scope of out-of-court statements that the Confrontation Clause was intended to address. *Crawford*, 541 U.S. at 52-53 (comparing modern police investigations to the investigations of magistrates under the Marian statutes). Most statements taken by the police facilitate further investigation, but that does not make them non-testimonial. Cellmark's report, like the reports in *Melendez-Diaz* and *Bullcoming*, was a written report of forensic testing produced in response to a police request as part of a criminal investigation in order to determine the DNA profile, and thus, the identity, of the offender. *Melendez-Diaz*, 129 S. Ct. at 2530-31; *Bullcoming*, 131 S. Ct. at 2710. Cellmark's report was made specifically for the purpose of establishing evidence for possible use in the prosecution of the sexual assault, and, therefore, was testimonial.

Equally unpersuasive is the State's argument that the report was not produced for an evidentiary purpose because a trier of fact could not understand it

without the help of a testifying expert.[4] Resp. Br. 30-31. Cellmark reported that its analysis of the complainant's vaginal swab produced a DNA profile for the donor of the sperm found on the swab. JA 56. That simple yet critical fact – the DNA profile came from the vaginal swab – is something any lay person can understand, even if the technical material was more complicated. In any event, even assuming the report could not be understood by a lay person, that does not make it non-testimonial. The key fact remains that it was produced for an evidentiary purpose. Suppose a witness swore out an affidavit in a foreign language; one could hardly say that, because the affidavit could not be understood by the trier of fact without a translation, it was not testimonial and so did not invoke the Confrontation Clause. Translation of a technical statement made by an expert for evidentiary purposes is no different in principle.

Finally, the State and its *amici* contend that Cellmark's report was an informal statement, and therefore, non-testimonial. Resp. Br. 26; Br. NDAA of 15-21. This argument is largely foreclosed by the holding in *Bullcoming* rejecting the argument that because the forensic report in question was unsworn it was not testimonial; this Court noted that "[r]eading

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[4] Similarly, the State's argument (Resp. Br. 31) that the report is non-testimonial because it incriminated Williams only when considered along with other evidence is merely a repetition of an argument that has been thoroughly rejected by this Court. *Melendez-Diaz*, 129 S. Ct. 2533-34.

the Clause in [such an] implausible manner . . . would make the right to confrontation easily erasable." *Bullcoming*, 131 S. Ct. at 2717; *see also Davis v. Washington*, 547 U.S. 813, 838 (2006) (Thomas, J., concurring in judgment in part and dissenting in part) ("[T]he Confrontation Clause . . . also reaches technically informal statements when used to evade the formalized process."); *Crawford*, 541 U.S. at 52 n.3 ("We find it implausible that a provision which concededly condemned trial by sworn ex parte affidavit thought trial by unsworn ex parte affidavit perfectly OK."). As in *Bullcoming*, the circumstances surrounding the creation of the forensic report established that the report was sufficiently formal – indeed, a "solemn declaration," *Crawford*, 541 U.S. at 51-53; *Melendez-Diaz*, 129 S. Ct. at 2543 (Thomas, J., concurring) – to be considered testimonial. 131 S. Ct. at 2717. Cellmark's report was a written document provided to the police in response to police inquiry during the course of a criminal investigation, prepared with the primary purpose of establishing a fact germane to the potential prosecution of a particular crime. Because the report was a "formal statement [made] to government officers" "for the purpose of establishing or proving some fact," the report was more like a response to a Marian investigation than an informal comment made to police officers, and therefore, was a sufficiently "solemn declaration" to rank as testimonial. *Crawford*, 541 U.S. at 51-53; *Davis*, 547 U.S. at 824; *Melendez-Diaz*, 129 S. Ct. at 2543 (Thomas, J., concurring).

E. Any burden that the Confrontation Clause imposes in this context does not justify creating an expert-witness exemption to the Confrontation Clause.

The State's *amici* contend that a ruling in Williams's favor would result in forensic labs becoming so overburdened they will not be able to perform their duties. Br. of New York County District Attorney ("NYCDA") 5-17; Br. of NDAA 12-37. Besides being overstated, *amici*'s basic argument has already been addressed and rejected by this Court. *Melendez-Diaz*, 129 S. Ct. at 2540-42. "The Confrontation Clause – like . . . other constitutional provisions – is binding, and we may not disregard it at our convenience." *Melendez-Diaz*, 129 S. Ct. at 2540; *see also Coy v. Iowa*, 487 U.S. 1012, 1020 (1988) ("It is a truism that constitutional protections have costs."). None of the alleged burdens raised by the State's *amici* justify creating an expert-witness exemption to the Confrontation Clause.

Contrary to the State and its *amici*, a ruling in Williams's favor would not impose an all-technicians-must-testify standard. Resp. Br. 22; Br. of NDAA 26; Br. of NYCDA 5. Williams asks only that the standard this Court set forth in *Melendez-Diaz* be applied: that when the prosecution chooses to present the testimonial statements of a witness, that witness must testify live unless he or she is unavailable and the defendant has been given a prior opportunity for cross-examination. *Melendez-Diaz*, 129 S. Ct. 2532 & n.1. Not every person involved in forensic testing

necessarily makes testimonial statements. For example, while it may be important that the machine used in forensic analysis be calibrated, if the machine is calibrated on a weekly rather than on a case-by-case basis, the technician's records indicating that the machine was properly calibrated are not necessarily testimonial because they are not case-specific assertions meant to assist a particular prosecution. Or if a technician handles the material but does not produce a testimonial statement on which the expert testifying in court must rely to form her opinion, the Confrontation Clause does not require the technician to testify. For example, if a technician treats the material according to prescribed procedures but does not report test results, there is presumably no need for her to testify. The question of who must testify is therefore under the prosecution's control to a large extent, and depends on the particular forensic process used.

Moreover, laboratories can structure themselves so as to minimize the number of witnesses necessary to introduce the result of their forensic testing. For example, in this case, only one analyst conducted the DNA analysis of Williams's blood sample. JA 12-14.

Amici's argument that there should be an expert-witness exemption to the Confrontation Clause in order to guard against the possibility that the original analyst may die ignores that this applies to all witnesses, not just forensic analysts. Br. of NDAA 30. The fact that a critical witness dies before the accused is afforded an opportunity to cross-examine does not make that witness's testimonial statements

immune from the requirements of the Clause. *Crawford*, 541 U.S. at 59 ("Testimonial statements of witnesses absent from trial have been admitted only where the declarant is unavailable, and only where the defendant has had a prior opportunity to cross-examine.").

Amici's argument that an expert-witness exemption is needed to account for retired analysts or those who have taken other jobs is illogical. Br. of NDAA 32. The fact that an analyst no longer works at the lab does not in any way prevent her from testifying live. Indeed, this argument is refuted by this very case. Lambatos was no longer working at the Illinois State Police Lab at the time of Williams's trial, but the prosecution nevertheless secured her live testimony. JA 43.

As this Court noted in *Melendez-Diaz*, notice-and-demand statutes can mitigate many of the supposed burdens the Confrontation Clause may bring. 129 S. Ct. at 2540-41. In addition, because DNA evidence, if properly stored, can last indefinitely, the sample can always be retested in the event the original analyst becomes available. Butler, *Fundamentals of Forensic DNA Typing*, 87-89. And according to one of the State's *amici*, samples as small as a pinhead are sufficient for DNA analysis (Br. of NYCDA 4), so it is the rare case where there will not be a sufficient amount of sample to store for future testing.

This Court need not determine in this case whether the Clause should be flexible if an analyst becomes

unavailable, as the prosecution never claimed, let alone made a showing, that Cellmark's analysts were unavailable.

F. The violation of Williams's right to confrontation was not harmless beyond a reasonable doubt.

The State argues (Resp. Br. 32) that any violation of Williams's right to confrontation was harmless. *See Chapman v. California*, 386 U.S. 18, 24 (1967). That is plainly wrong. In announcing his finding of guilt, the trial judge made clear that his finding was heavily influenced by the DNA evidence. R. JJJ152. Furthermore, the only remaining evidence against Williams was the complainant's identification, which, contrary to the State's claim (Resp. Br. 32), was of very questionable credibility. According to police testimony, shortly after the attack the complainant twice positively identified a man other than Williams as her attacker. R. III30-31. In addition, an entire year passed between the time of the attack and when the complainant first identified Williams as her attacker. R. JJJ113. Accordingly, the violation was not harmless.

CONCLUSION

For the forgoing reasons, the judgment of the Supreme Court of Illinois should be reversed.

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AMICUS CURIAE BRIEF

No. 10-8505

In the Supreme Court of the United States

SANDY WILLIAMS, PETITIONER

v.

STATE OF ILLINOIS

ON WRIT OF CERTIORARI TO THE SUPREME COURT OF ILLINOIS

BRIEF FOR THE UNITED STATES AS AMICUS CURIAE SUPPORTING RESPONDENT

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QUESTION PRESENTED

Whether the Confrontation Clause of the Sixth Amendment is satisfied when an expert witness provides opinion evidence based in part on laboratory data produced by analysts who did not testify at trial and the data underlying the expert's opinion are admitted not as substantive evidence but only to assist in evaluating her opinion.

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Edward J. Imwinkelried, *The "Bases" of Expert Testimony: A Syllogistic Structure of Scientific Testimony*, 67 N.C. L. Rev. 1 (1988) 15

In the Supreme Court of the United States

No. 10-8505

SANDY WILLIAMS, PETITIONER

v.

STATE OF ILLINOIS

ON WRIT OF CERTIORARI
TO THE SUPREME COURT OF ILLINOIS

BRIEF FOR THE UNITED STATES AS AMICUS CURIAE SUPPORTING RESPONDENT

INTEREST OF THE UNITED STATES

Federal prosecutors may often present scientific opinion evidence through experts who may rely on data from non-testifying analysts, in accordance with Rules 702, 703, and 705 of the Federal Rules of Evidence. The United States therefore has a significant interest in the Court's resolution of the question presented.

STATEMENT

1. On the night of February 10, 2000, in Chicago, Illinois, petitioner abducted L.J., forced her into his car, and vaginally penetrated her and contacted her anus with his penis. After the sexual assault, petitioner pushed L.J. out of his car. L.J. ran home partially clothed, and her mother called the police. Officers re-

sponded and L.J. was transported to a hospital. J.A. 144-145.

At the hospital, Dr. Nancy Schubert conducted a vaginal exam of L.J. J.A. 145. Dr. Schubert observed whitish secretions, collected them with vaginal swabs, sealed the swabs in containers, and placed the containers in a sexual-assault-evidence kit along with a sealed blood sample collected from L.J. Trial Tr. (Tr.) III-54 to III-55. The evidence kit went into a locked box in the emergency room, from which Detective Michael Baker retrieved it. Tr. III-62 to III-63. Detective Baker labeled the kit with inventory number 2276053 and sent it to the Illinois State Police (ISP) Crime Lab for testing. Tr. III-73 to III-74. ISP forensic biologist Brian Hapack received the sealed evidence kit, which the lab labeled with case number C00007770. J.A. 30. Hapack confirmed the presence of semen in the vaginal swabs. J.A. 31-32. He then sealed them in envelopes, sealed the stain card with L.J.'s blood-sample standard in another envelope, labeled each with the case number and subexhibit numbers, and placed the kit in a secure freezer. J.A. 34-35.

On August 3, 2000, the police arrested petitioner for a separate crime. J.A. 146; cf. J.A. 98-99. On August 21, 2000, pursuant to a court order, a phlebotomist in the Cook County jail system drew petitioner's blood to obtain his DNA profile for an ISP database. Tr. JJJ-6. Investigator John Duffy observed the procedure and sealed petitioner's blood sample in an envelope, which he labeled with inventory number 2391661 and delivered to ISP. Tr. JJJ-15. In September 2000, ISP forensic scientist Karen Kooi Abbinanti analyzed the sample, determined petitioner's DNA profile, and added that profile to the ISP database. J.A. 13-15.

On November 28, 2000, the ISP Crime Lab sent the semen and blood samples from L.J.'s sexual-assault-evidence kit to Cellmark Diagnostic Laboratory in Germantown, Maryland, for DNA analysis. J.A. 51-53, 146-147. On April 3, 2001, Cellmark returned the vaginal swabs and blood samples to the ISP Crime Lab by Federal Express with a deduced male DNA profile. J.A. 54-55, 147.

Sandra Lambatos, an ISP forensic scientist, ran a data bank search using the male DNA profile provided by Cellmark. J.A. 56, 61. The computer generated a match with petitioner's DNA profile. *Ibid.* Lambatos then independently compared the DNA profile data from Cellmark to the DNA profile that ISP obtained from petitioner's blood. J.A. 56-57. She concluded that the two profiles matched. J.A. 57-58.

On April 17, 2001, L.J. identified petitioner as her assailant during a line up. J.A. 147.

2. The State indicted petitioner on 17 counts of aggravated criminal sexual assault, aggravated kidnapping, and aggravated robbery. J.A. 144. Petitioner elected a bench trial. *Ibid.* During trial, the state offered Lambatos as an expert witness in forensic biology and forensic DNA analysis. J.A. 42-90.

a. On direct examination, Lambatos testified that a technique known as polymerase chain reaction (PCR) testing is generally accepted in the scientific community as one of the most modern types of DNA testing. J.A. 47. A forensic sample, Lambatos explained, typically contains only a small amount of DNA; the PCR process "amplifie[s]" that DNA to create a sufficient amount for scientific examination. J.A. 48. Specific areas of interest on the DNA are then tagged with florescent markers, the sample is processed through a "genetic ana-

lyzer," and a DNA profile is generated. *Ibid.* Lambatos explained that this process can be used to identify a male DNA profile from semen, which can then be matched against the profile developed from a suspect's blood. *Ibid.*

Lambatos testified that Cellmark was an "accredited crime lab" and that, during her tenure at the ISP Crime Lab, ISP had a practice of sending evidence samples to Cellmark for DNA testing to expedite their processing and reduce ISP's backlog. J.A. 49-50. She explained that ISP sent sealed samples to Cellmark via Federal Express, that Cellmark would return the evidence in a sealed condition via Federal Express, and that this manner of transporting evidence for DNA analysis was generally accepted in the scientific community. J.A. 50-51.

Lambatos testified that ISP retained shipping manifests for the deliveries to and from Cellmark in the ordinary course of business and used those manifests to maintain a record of the chain of custody associated with the evidence. J.A. 50, 54. She also explained that ISP Crime Lab analysts regularly relied upon the manifests in performing their work. J.A. 50. Lambatos testified that it is a "commonly accepted" practice within the scientific community for "one DNA expert to rely on the records of another DNA expert" in order to complete a DNA analysis. J.A. 51.

Turning to the facts of this case, Lambatos testified about two shipping manifests. The first indicated that ISP sent the vaginal swabs and blood samples for case number C00007770 to Cellmark on November 28, 2000. J.A. 53. The second indicated that Cellmark returned samples for case number C00007770 to ISP on April 3, 2001. J.A. 54. The trial court subsequently admitted both manifests into evidence. Tr. JJJ-119 to JJJ-120.

Lambatos testified that she was assigned to work on case number C00007770. J.A. 55.

The State asked Lambatos whether an ISP computer indicated that "the male DNA profile found in semen from the vaginal swabs" matched petitioner's profile. J.A. 55. Petitioner objected, arguing that no "foundation" had been laid for the question because there was "no evidence with regard to any testing" done on the vaginal swabs sent to Cellmark "to generate a DNA profile." *Ibid.* The court said "[w]e will see" and allowed Lambatos to answer. J.A. 56. Lambatos confirmed the computer match. *Ibid.*

Lambatos then testified that she used the method of analysis previously discussed to "compare the semen that had been identified by [ISP forensic biologist] Hapack * * * to the male DNA profile that had been identified by [ISP forensic scientist] Kooi." J.A. 56-57; cf. J.A. 68-69. Petitioner again objected, but only to "the form of the question." J.A. 56. Lambatos thereafter testified that the probability of the DNA profile occurring in unrelated individuals was 1 in 8.7 quadrillion, 390 quadrillion, and 109 quadrillion in the black, white, and Hispanic populations, respectively. J.A. 57. Finally, over petitioner's objection, Lambatos testified that, in her "expert opinion," she would call this a "match to [petitioner]." J.A. 58.

b. On cross-examination (J.A. 58-86), Lambatos acknowledged that she "did not perform testing" on the vaginal swabs and, instead, based her expert conclusion on Cellmark's testing. J.A. 59, 68-69. Lambatos stated that she did not personally observe any of that testing, did not know how the samples were processed by Cellmark, and did not know if their instruments had been calibrated. J.A. 59-60, 73-74. She explained, how-

ever, that Cellmark was "an accredited laboratory so [it] would have to meet certain guidelines to perform DNA analysis" and, for that reason, "all those calibrations and internal proficiencies and controls would have had to have been in place." J.A. 59-60; see J.A. 74 (explaining that certain guidelines must be met to receive accreditation).

Lambatos also testified on cross-examination that she received a report from Cellmark that included an allele chart reflecting the results of Cellmark's testing. J.A. 61. She explained that the chart contained "data that [she] used to run [the] data bank search" that generated a computer match. J.A. 61, 65.

In addition to reviewing that data, Lambatos explained that she developed her "own opinion" by reviewing the materials she received, including an electropherogram associated with vaginal swab E2. J.A. 62, 66. Lambatos acknowledged that she did not review any other electropherograms, including controls that would have been run during DNA testing. J.A. 62-63. She also testified that Cellmark's results indicated a mixed DNA profile reflecting the DNA of only two people. J.A. 68, 70. Lambatos responded to detailed questioning about the methodology for deducing a male profile from the mixture and, in response to petitioner's questions, discussed specific data obtained from Cellmark. J.A. 68-73, 77-82, 84-85.

c. On redirect (J.A. 86-89), Lambatos testified that she had developed proficiency tests to be administered to the analysts at Cellmark and that, in her opinion, Cellmark's methods were generally accepted in the scientific community. J.A. 86-87. She further explained that she "routinely" relied on Cellmark's results in performing her work at the ISP Crime Lab. J.A. 87. And

she indicated that "the only two people in this mixture are [petitioner] and [L.J.]." J.A. 86. Lambatos explained that she "reviewed the data and made [her] own determination" and that, in her "expert opinion, the DNA [on] the vaginal swabs * * * came from [L.J.] and [petitioner]." J.A. 87-89.

d. At the conclusion of Lambatos's testimony, petitioner moved to exclude "that evidence with regards to testing done by [Cellmark]" on Confrontation Clause grounds. J.A. 90 (brackets in original). The trial court denied the motion to strike Lambatos's "testimony * * * or opinions based on her own independent testing of the data received from [Cellmark]." J.A. 94-95 (brackets in original). The court explained that it agreed with the State's argument that the "opinion as an expert" was admissible because petitioner had the opportunity to cross-examine Lambatos and because Lambatos's reliance on data from Cellmark ultimately "goes to the weight of the testimony." J.A. 91, 94.

e. The State presented testimony from the victim, Dr. Schubert, Detective Baker, Hapack, Duffy, and Kooi, among others. J.A. 84, 110-112. The trial court found petitioner guilty on two counts of aggravated criminal sexual assault, one count of aggravated kidnaping, and one count of aggravated robbery. J.A. 98, 106-108. It later denied petitioner's motion for a new trial, which renewed the objections to Lambatos's testimony, J.A. 98-103, based on its prior rulings. J.A. 105.

3. The state court of appeals affirmed in relevant part. J.A. 109-141. The court concluded that Lambatos's testimony about Cellmark's testing and analysis did not violate petitioner's Confrontation Clause rights. J.A. 123-127. The court reasoned that the Cellmark results were not offered into evidence for their truth but

instead to explain the "basis for Lambatos' opinion" based on "her own evaluation of the data" from Kooi, Hapack, and Cellmark. J.A. 125. The court further explained that the Confrontation Clause "does not bar the use of testimonial statements for purposes other than establishing the truth of the matter asserted," J.A. 124 (quoting *Crawford* v. *Washington*, 541 U.S. 36, 60 n.9 (2004)), and that the weight to give Lambatos's testimony was properly reserved to the fact-finder to determine in light of petitioner's "vigorous[] cross-examina[tion]." J.A. 126. In so holding, the court parenthetically noted that "a trial judge is presumed to consider only competent evidence unless the record affirmatively demonstrates otherwise." *Ibid.*[1]

One member of the court of appeals did not address the Confrontation Clause issue and instead dissented on the ground that Lambatos's opinion lacked a sufficient foundation. J.A. 130-141.

4. The Illinois Supreme Court affirmed the trial court in all respects. J.A. 143-185.

The state supreme court reasoned that the Confrontation Clause bars only the use of "testimonial hearsay" and thus does not prohibit the "admission of testimonial statements * * * for purposes other than proving the truth of the matter asserted." J.A. 161-162 (citing *Crawford*, 541 U.S. at 53, 59 n.9). The court noted that Cellmark's "report was not admitted into evidence," J.A. 165; see J.A. 150, and held that, under state law, Lambatos's testimony about information from that report would have been admissible only "for the limited purpose of explaining the basis for [her expert opinion],"

[1] The court of appeals reversed in part on a sentencing issue not relevant here, J.A. 127-129, but the Illinois Supreme Court later reinstated the original sentence. J.A. 173.

not for showing "the truth of the matter asserted." J.A. 164 (quoting *People* v. *Lovejoy*, 919 N.E.2d 843, 868 (Ill. 2009), which quotes *People* v. *Pasch*, 604 N.E.2d 294, 311 (Ill. 1992)). The court further held that, in this case, Lambatos's testimony about that information was in fact admitted only "to show the underlying facts and data Lambatos used before rendering an expert opinion" and not to establish that the information was true. J.A. 165, 172. Based on "the record" in this case, the court concluded that "gaps in the chain of custody went to the 'weight of the evidence rather than its admissibility'" and that "Lambatos' conclusion was tested 'in the crucible of cross-examination.'" J.A. 172 (quoting *Melendez-Diaz* v. *Massachusetts*, 129 S. Ct. 2527, 2532 n.1 (2009), and *Crawford*, 541 U.S. at 61).

The state supreme court rejected petitioner's argument that Lambatos had served as a mere "conduit" for the Cellmark report. J.A. 167. The court reasoned that Lambatos "did not simply read to the judge, sitting as a fact finder, from Cellmark's report"; she instead "used her own expertise" to compare "the DNA profile in the ISP database with the [Cellmark] DNA profile." J.A. 167, 171. Unlike in *Melendez-Diaz*, the court explained, Lambatos independently "made her own visual and interpretive comparisons of the peaks on the electropherogram and the table of alleles." *Ibid.* The Cellmark report, the court noted, "did not include any comparative analysis," "was not introduced into evidence," was used only to support Lambatos's opinion "that the profiles matched," and was disclosed only "for the limited purpose of explaining the basis for [Lambatos's] opinion." J.A. 171-172.[2]

[2] Two justices filed opinions on other issues. J.A. 174-184, 184-185.

SUMMARY OF ARGUMENT

A scientific expert may testify to her opinion based in part on laboratory data produced by non-testifying analysts. When that underlying information is admitted at trial not as substantive evidence but only to assist in evaluating the expert's opinion, the testimony does not violate the Confrontation Clause.

I. A. Expert testimony applies specialized knowledge to a particular set of facts. Under standard rules of evidence, the expert may rely on inadmissible evidence, including testimonial evidence, in forming her opinion. Experts typically are not permitted to disclose to a jury such underlying inadmissible information unless a court determines that the risk of misuse for a substantive purpose is substantially outweighed by the probative value of the information in evaluating the expert's opinion. If a court permits the proponent of the opinion to elicit the otherwise-inadmissible data, it must instruct the jury that the data cannot be used to prove the truth of the matter asserted.

The Confrontation Clause applies only to testimonial statements used to prove the truth of the matter asserted. It therefore "does not bar the use of testimonial statements for purposes other than establishing the truth of the matter asserted." *Crawford* v. *Washington*, 541 U.S. 36, 60 n.9 (2004). When an expert testifies about underlying testimonial information to explain her opinion, and the court restricts the information's use to that purpose, the testimony complies with the Confrontation Clause.

B. Expert testimony must be linked to the facts of a case to provide assistance to the fact-finder. But the link need not come from admissible evidence from the expert herself. When the proponent of the evidence fails

to introduce admissible evidence sufficient to tie the expert's opinion reliably to the case at hand, the opinion evidence may have little probative force. The admission of evidence does not violate the Confrontation Clause merely because the evidence lacks probative value.

Petitioner argues that when a fact-finder relies on an expert's opinion as having probative value, the fact-finder necessarily must credit the underlying premises, because if those premises were false, the opinion would not be persuasive. But the jury can rely on other evidence, apart from the expert's own testimony about the bases for her opinion, to link the expert's opinion to the case. And once the jury has done so, it need not accept for its truth the otherwise-inadmissible testimonial evidence that the expert considered.

C. The standard rules of evidence work to prevent the misuse of inadmissible testimonial statements that support an expert's testimony. Limiting instructions, gatekeeping, prejudice-avoiding determinations, and cross-examination help prevent the fact-finder from treating the underlying data the expert describes as substantive evidence.

II. The expert testimony in this case complied with the Confrontation Clause. The State's DNA expert opined that the DNA profile from petitioner's blood matched the male DNA profile provided by Cellmark. From independent circumstantial proof, a fact-finder could infer that Cellmark's DNA results were derived from samples taken from the victim. And under state law, the expert's testimony about Cellmark's work did not come in for its truth, but only for evaluating her opinion. Because petitioner had a full opportunity to cross-examine the expert on that opinion, the Confrontation Clause was satisfied.

ARGUMENT

I. THE CONFRONTATION CLAUSE PERMITS AN EXPERT TO TESTIFY TO HER OWN OPINION BASED IN PART ON INADMISSIBLE TESTIMONIAL DATA WHEN THOSE DATA ARE NOT ADMITTED AS SUBSTANTIVE EVIDENCE

The Confrontation Clause of the Sixth Amendment provides that "[i]n all criminal prosecutions, the accused shall enjoy the right * * * to be confronted with the witnesses against him." U.S. Const. Amend. VI. In *Crawford* v. *Washington*, 541 U.S. 36 (2004), the Court held that the Confrontation Clause bars the introduction into evidence at a criminal trial of "testimonial statements of a witness who did not appear at trial" unless the witness is unavailable to testify and the defendant has had a prior opportunity for cross-examination. *Id.* at 51, 53-54, 68. That prohibition "applies only to testimonial hearsay." *Davis* v. *Washington*, 547 U.S. 813, 823-824 (2006). Hearsay involves "[o]ut-of-court statements * * * offered in evidence to prove the truth of the matter asserted." *Anderson* v. *United States*, 417 U.S. 211, 219 (1974); Fed. R. Evid. 801(c). The Confrontation Clause "does not bar the use of testimonial statements for purposes other than establishing the truth of the matter asserted." *Crawford*, 541 U.S. at 60 n.9 (citing *Tennessee* v. *Street*, 471 U.S. 409, 414 (1985)).

In *Melendez-Diaz* v. *Massachusetts*, 129 S. Ct. 2527, 2532 (2009), the Court held that affidavits reporting the results of forensic drug testing that had been created "sole[ly]" as evidence for criminal proceedings were "testimonial" and could not be admitted as substantive evidence under the Confrontation Clause, unless the State produced a live witness at trial competent to tes-

tify to the truth of the statements in the affidavits. In *Bullcoming* v. *New Mexico*, 131 S. Ct. 2705, 2710, 2715-2716 (2011), the Court applied *Melendez-Diaz* to hold that the Confrontation Clause did not allow the admission of an analyst's signed, forensic report certifying the results of a blood-alcohol test when offered through the testimony of another scientist who "did not sign the certification or perform or observe the test" and who had no "independent opinion" about its results. Such "surrogate testimony," the Court stated, "does not meet the constitutional requirement." *Id.* at 2710.

This case presents a different scenario from *Melendez-Diaz* and *Bullcoming*. In this case, an expert in forensic DNA analysis testified live at trial about her independent expert opinion that she developed based on data that were not admitted as substantive evidence. The Confrontation Clause did not forbid her opinion testimony because the defendant had the opportunity to cross-examine the expert and challenge her conclusions and the underlying assumptions. Unlike in *Melendez-Diaz* and *Bullcoming*, no testimonial report authored by an absent witness was admitted into evidence to prove the truth of the matters asserted in the report. Cf. *Bullcoming*, 131 S. Ct. at 2722 (Sotomayor, J., concurring in part) (noting that the Court had not addressed "the constitutionality of allowing an expert witness to discuss others' testimonial statements if the testimonial statements were not themselves admitted as evidence"). Instead, the State in this case presented the expert's opinion concerning a DNA match between two profiles, as well as circumstantial evidence that one of the profiles was obtained from the semen recovered from the victim. The expert's testimony complied with the Confrontation Clause.

A. Live Expert Testimony That Discusses Facts Or Data Underlying The Expert's Opinion Does Not Violate The Confrontation Clause If The Facts Or Data Are Not Introduced To Establish Their Truth

1. The value of expert testimony at trial lies in the specialized knowledge that experts bring to bear in forming opinions and drawing inferences relevant to factual questions in dispute. Such expert opinions aid the truth-seeking process because, by their very nature, they can provide a perspective that "rest[s] 'upon an experience confessedly foreign in kind to [the jury's] own.'" *Kumho Tire Co.* v. *Carmichael*, 526 U.S. 137, 149 (1999) (brackets in original; citation omitted).

In federal court, "[t]he subject of an expert's testimony must be 'scientific [or other specialized] knowledge,'" *Daubert* v. *Merrell Dow Pharm., Inc.*, 509 U.S. 579, 589-590 (1993) (quoting Fed. R. Evid. 702), and a central criterion for admissibility is whether that knowledge would assist laypersons. Illinois similarly follows that principle and admits expert-opinion testimony as evidence if it is based on "knowledge that is not common to laypersons, and where such testimony will aid the fact finder in reaching its conclusion." *People* v. *Mertz*, 842 N.E.2d 618, 657 (Ill. 2005), cert. denied, 549 U.S. 828 (2006); see Ill. R. Evid. 702 (effective Jan. 1, 2011).[3]

An "expert's testimony is a syllogism: The major premise is the validity of the [expert's] general theory or technique" based on specialized knowledge, "the minor premise is the case specific data," and "the application

[3] In 2010, the Illinois Supreme Court adopted the Illinois Rules of Evidence, which became effective on January 1, 2011. Those rules, with two exceptions not relevant here, codified the pre-existing Illinois law on evidence. See Ill. R. Evid. comm. comment. at 1, http://www.state.il.us/court/SupremeCourt/Evidence/Evidence.pdf.

of major to minor yields a conclusion relevant to the merits of the case." 1 Kenneth S. Broun, *McCormick on Evidence* § 13, at 72 (6th ed. 2006) (*McCormick*); see Edward J. Imwinkelried, *The "Bases" of Expert Testimony: A Syllogistic Structure of Scientific Testimony*, 67 N.C. L. Rev. 1, 2-3 (1988). Like any witness, an expert can testify to facts within her personal knowledge. See Fed. R. Evid. 702 (an expert may testify "in the form of an opinion or otherwise"). But expert-opinion testimony often applies specialized knowledge to the specific circumstances of a case about which the expert has no direct personal knowledge. An expert witness is therefore quite "[u]nlike an ordinary witness" because the "expert is permitted wide latitude to offer opinions, including those that are *not* based on firsthand knowledge or observation." *Daubert*, 509 U.S. at 592 (emphasis added; citation omitted). But "when the expert witness has consulted numerous sources, and uses that information, together with his own professional knowledge and experience, to arrive at his opinion, that opinion is regarded as evidence in its own right and not as hearsay in disguise." *United States* v. *Williams*, 447 F.2d 1285, 1290 (5th Cir. 1971) (en banc), cert. denied, 405 U.S. 954 (1972).

2. Both federal and Illinois law expressly permit an expert to testify to an expert opinion based on "facts or data in [a] particular case * * * made known to the expert at or before the hearing." Fed. R. Evid. 703; *Wilson* v. *Clark*, 417 N.E.2d 1322, 1326-1327 (Ill.) (adopting the "procedures embodied in Federal Rules 703 and 705"), cert. denied, 454 U.S. 836 (1981). Consistent with the understanding that expert opinion can be based on factual matters about which the expert has no direct personal knowledge, both federal and Illinois law permit

experts to base their opinions on "otherwise inadmissible hearsay," so long as "the facts or data are 'of a type reasonably relied upon by experts in the particular field in forming opinions or inferences upon the subject.'" *Daubert*, 509 U.S. at 595 (quoting Fed. R. Evid. 703); *Wilson*, 417 N.E.2d at 1326.[4]

Under the Federal Rules, the proponent of an expert opinion cannot "disclose to the jury" the "[f]acts or data" that form the premise for the opinion if the information would otherwise be inadmissible, unless the trial court first determines that their probative value "in assisting the jury to evaluate the expert's opinion" substantially outweighs their prejudicial effect. Fed. R. Evid. 703; cf. Fed. R. Evid. 705 (expert may be required on cross-examination to "disclose the underlying facts or data"). And if a federal court permits such underlying facts or data to be admitted, it "must give a limiting instruction upon request, informing the jury that the underlying information must *not* be used for substantive purposes." Fed. R. Evid. 703 advisory comm. note (2000 amendment) (emphasis added); see also Fed. R. Evid. 105 (When evidence is admissible for one purpose but not

[4] Professor Friedman correctly observes (Amicus Br. 24 & n.13) that experts were not traditionally permitted to base opinions on inadmissible hearsay. At common law, experts could give opinions based on (1) personally known facts or (2) hypothetical facts that the expert would assume as true and that a litigant would separately support with admissible evidence presented to the jury. 1 *McCormick* § 14, at 86-88. The rationale for that practice, however, was not rooted in Confrontation Clause concerns. It was based simply on the view that, "as a matter of *logic*, the jury could not accept the opinion based on the facts if the only evidence of the facts is inadmissible." *Id.* § 15, at 91 (emphasis added). The repudiation of that view does not trigger Confrontation Clause concerns so long as the inadmissible data are either nontestimonial, not admitted for the truth, or both.

another, "the court, upon request, shall restrict the evidence to its proper scope and instruct the jury accordingly."). Accordingly, any otherwise inadmissible facts or data that might serve as a premise for the expert's opinion will be "admissible only for the purpose of assisting the jury in evaluating [that] opinion," Fed. R. Evid. 703 advisory comm. note (2000 amendment), not for proving that the facts or data are themselves true. The federal courts of appeals and the Illinois courts have long recognized that rule. See, *e.g.*, *United States* v. *Pablo*, 625 F.3d 1285, 1292 (10th Cir. 2010), petition for cert. pending, No. 10-9789 (filed Mar. 31, 2011); *United States* v. *Dukagjini*, 326 F.3d 45, 58 (2d Cir. 2003), cert. denied, 541 U.S. 1092 (2004); *Trepel* v. *Roadway Express, Inc.*, 194 F.3d 708, 717 (6th Cir. 1999); *United States* v. *Wright*, 783 F.2d 1091, 1100-1101 (D.C. Cir. 1986); *Paddack* v. *Dave Christensen, Inc.*, 745 F.2d 1254, 1262 (9th Cir. 1984); *People* v. *Pasch*, 604 N.E.2d 294, 311 (Ill. 1992) ("[A]n expert may disclose the underlying facts and conclusions" in non-testifying experts' reports "for the limited purpose of explaining the basis for his opinion" but not "for the truth of the matter asserted.") (emphasis omitted); J.A. 162-164.

The distinction between an expert's opinion and the case-specific factual premises on which it rests was recognized long ago at common law. In *Beckwith* v. *Sydebotham*, 170 Eng. Rep. 897, 897 (K.B. 1807), the defendant sought to prove that a ship (the *Earl of Wycombe*) was unseaworthy by calling as witnesses "several eminent surveyors of ships who had never seen the 'Earl of Wycombe.'" Lord Chief Justice Ellenborough held the expert testimony to be admissible. *Ibid.* He reasoned, however, that the experts' "opinion [ultimately] might not go for much" because "the truth of the

facts stated to [the experts] was not certainly known." *Ibid.* The surveyors, Lord Ellenborough emphasized, could be asked on "cross-examination * * * what they should think upon the statement of facts contended for on the other side," thus exposing the possibility that their opinions had been based on factual predicates "which might be false." *Ibid.*

3. As *Beckwith* illustrates, an expert's opinion need not be understood as proving the underlying factual premises on which it relies. The expert provides her opinion; other facts may be crucial to its probative value. But those facts need not be admissible in evidence in order for the opinion to survive Confrontation Clause scrutiny. For example, an expert might testify that she compared the data associated with DNA profile A to that associated with DNA profile B and determined that those profiles matched. So long as the expert is then subject to cross-examination about her independent opinion, both with respect to her own scientific analysis and with respect to the case-specific facts on which she based the opinion, such expert-opinion testimony can be consistent with the Sixth Amendment's right to confrontation.

The "witness[] against" the defendant when an expert testifies to her opinion is the expert. The Confrontation Clause "is a procedural * * * guarantee" that commands that testimonial evidence must be available for "testing in the crucible of cross-examination." *Crawford*, 541 U.S. at 61. A defendant's opportunity to cross-examine an expert who testifies about her independent opinion allows the defendant to test the reliability of that opinion by probing the expert's method of analysis and her conclusions as applied to the case. It also permits the defendant to elicit the case-specific data

or facts that the expert used for the foundation for her opinion. If the data and facts that underlie the expert's opinion are not themselves admissible as substantive evidence, then cross-examination, like the cross-examination in *Beckwith*, can demonstrate to the finder of fact that the expert's opinion rests on her assumption of case-specific matters that the expert cannot confirm are correct. Such cross-examination can substantially diminish the force of such testimony and may convince the fact-finder that the opinion should be disregarded as unreliable.

The admission of the facts and data underlying an expert's opinion for the limited purpose of "assessing [its] value," J.A. 172, does not violate the Confrontation Clause. If such information is otherwise inadmissible, it can be used in federal and Illinois courts only for the limited purpose of explaining the bases for the opinion, not for establishing that the facts or data are true. Because the Confrontation Clause does not "bar the use of testimonial statements for purposes other than establishing the truth of the matter asserted," *Crawford*, 541 U.S. at 60 n.9 (citing *Street*, 471 U. S. at 414); accord *Michigan* v. *Bryant*, 131 S. Ct. 1143, 1161 n.11 (2011), consideration of the inadmissible data for the limited purpose of assessing the expert's testimony does not infringe confrontation rights.

4. *Bullcoming* establishes that an expert witness cannot serve as a conduit for out-of-court testimonial statements by non-testifying analysts. But allowing such statements to be considered by the trier of fact in evaluating the expert's opinion does not end run that principle. When a jury is properly instructed not to accept such statements for their truth, "the almost invariable assumption of the law [is] that jurors follow their

instructions." *Richardson* v. *Marsh*, 481 U.S. 200, 206 (1987). In only one instance has this Court found that assumption overcome: in cases involving certain "'powerfully incriminating extrajudicial statements of a codefendant'—those naming another defendant"—the Court has determined that the statements, "considered as a class, are so prejudicial that limiting instructions cannot work." *Gray* v. *Maryland*, 523 U.S. 185, 192 (1998) (discussing *Bruton* v. *United States*, 391 U.S. 123 (1968)). The expert-witness context is not analogous to that "narrow exception." *Richardson*, 481 U.S. at 207. As in *Richardson*, because the expert's testimony is "not incriminating on its face," but must be "linked with [other] evidence" to infer guilt, no "overwhelming probability" exists that juries will be unable to follow a proper limiting instruction. *Id.* at 208.

When, as in this case, the fact-finder is a judge, rather than a jury, the presumption that evidence will be considered only for its proper, limited purpose is even stronger. "In bench trials, judges routinely hear inadmissible evidence that they are presumed to ignore when making decisions." *Harris* v. *Rivera*, 454 U.S. 339, 346 (1981) (per curiam). A "well-established presumption" posits "that the judge [has] adhered to basic rules of procedure" and has followed appropriate jury instructions when the judge is "acting as [a] factfinder[]." *Id.* at 346-347; see also *United States* v. *Foley*, 871 F.2d 235, 240 (1st Cir. 1989) (explaining that this "presumption of judicial regularity is basic to bench trials" and is followed in the courts of appeals). For that reason, even *Bruton*'s narrow exception to the general rule—that a jury is presumed to follow its instructions—is inapplicable in bench trials. *Johnson* v. *Tennis*, 549 F.3d 296, 300 (3d Cir. 2008) (joining "myriad" courts so holding; stat-

ing that "[n]othing in *Bruton* suggests that a judge is incapable of applying the law of limited admissibility which he has himself announced") (citation omitted), cert. denied, 129 S. Ct. 2774 (2009).

B. An Expert Opinion Must Be Linked To The Facts Of The Case By Admissible Direct Or Circumstantial Evidence, But The Failure To Establish That Link Raises No Confrontation Clause Concerns

When an expert's opinion rests on case-specific facts or data that are not admitted into evidence, the proponent of that testimony must provide a sufficient link through admissible evidence to permit a reasonable fact-finder to conclude that the expert's opinion is relevant to the case. That link can be established by either direct or circumstantial evidence. But the proponent's failure to provide a sufficient evidentiary link between the opinion and the facts of a case—like the failure to provide sufficient evidence to establish the chain of custody of any piece of evidence that is the subject of live testimony—is merely a failure of proof, not a violation of the Confrontation Clause.

1. In order to be admissible, evidence must be relevant, that is, it must have at least some "tendency to make the existence of any fact that is of consequence to the determination of the action more probable or less probable than it would be without the evidence." Fed. R. Evid. 401, 402. When an expert provides an opinion that is based on case-specific facts or data of which the expert has no personal knowledge, the proponent must provide a basis for the fact-finder to determine that the underlying case-specific facts or data are related to the case in order to justify reliance on the opinion.

That relationship can be proved circumstantially. For instance, the prosecution may present evidence that a forensic sample was collected at a crime scene and made its way through a chain of custody to a forensic laboratory. Testimony can establish that the lab is properly accredited and therefore employs approved scientific techniques and appropriate controls to process forensic samples. Testimony can also establish that the lab returned a report with the sample to the originating law-enforcement agency. Such testimony can provide a basis for the fact-finder to infer circumstantially that the analytical data the lab produced are connected to the case. It can also allow the jury to assess the expert's opinion based on that data.

The prosecution, of course, might well have a stronger case if it could provide direct evidence of such testing through the live testimony of analysts who participated in the testing. The resulting data could then be admissible as substantive evidence. But nothing in the Confrontation Clause "alters the type of evidence (including circumstantial evidence) sufficient to sustain a conviction," *Melendez-Diaz*, 129 S. Ct. at 2542 n.14, and this Court has "never questioned the sufficiency of circumstantial evidence" to sustain a criminal conviction. *Desert Palace, Inc.* v. *Costa*, 539 U.S. 90, 100 (2003). "Circumstantial evidence in this respect is intrinsically no different from testimonial evidence": "[i]n both instances, a jury is asked to weigh the chances that the evidence correctly points to guilt against the possibility of inaccuracy or ambiguous inference." *Holland* v. *United States*, 348 U.S. 121, 140 (1954). The reliability of such evidence, however, reflects garden-variety questions of evidentiary sufficiency that are not the concern

of the Confrontation Clause. *Crawford*, 541 U.S. at 61; see *Melendez-Diaz*, 129 S. Ct. at 2536.

2. Petitioner argues (Br. 20-24) that the inadmissible case-specific facts or data that an expert identifies as forming the basis for his or her opinion are in fact being relied upon for their truth—and hence violate the Confrontation Clause—because the jury cannot fully accept the expert's opinion without also concluding that the underlying premises are themselves true. Petitioner's Confrontation Clause analysis is incorrect. A jury that finds an expert's opinion reliable need not infer *from her testimony* that the underlying facts and data are also reliable.

The probative value of testimony may often depend on other proof. For instance, a chain of custody may be necessary to establish that the evidence tested scientifically pertains to the defendant. If the government presents only one officer to testify about the chain of custody, without presenting others in the chain, the government's case that the evidence was received by a lab in pristine condition may be weak. But that goes to the weight of the evidence. Similarly, testimony by an analyst who conveys the results of a test can have less weight if the testing instrument was not calibrated properly. Nevertheless, this Court has emphasized that "it is not the case" that "anyone whose testimony may be relevant in establishing the chain of custody, authenticity of the sample, or accuracy of the testing device, must appear in person as part of the prosecution's case." *Melendez-Diaz*, 129 S. Ct. at 2532 n.1; see *Bullcoming*, 131 S. Ct. 2712 n.2; *id.* at 2721 n.2 (Sotomayor, J., concurring in part). As the Court has explained, such "gaps * * * normally go to the weight of the evidence rather

than its admissibility." *Melendez-Diaz*, 129 S. Ct. at 2532 n.1.

The same is true for the factual basis for an expert's opinion. A jury can distinguish between the expert's knowledge of a specialized field that enables her to synthesize data and provide an opinion, and the expert's lack of personal knowledge of the underlying facts. An expert may, for example, compare two sets of fingerprints—one taken from the defendant and one from the crime scene—and persuasively opine that they are a match, even though the expert may not have personal knowledge of the circumstances of the crime scene. The expert may also describe her understanding of the crime scene in order to explain her opinion on the quality of one of the prints. It is then up to the prosecution to introduce admissible evidence to corroborate that understanding. And in some cases, the prosecution may fail to do so. But a jury that credits the expert's testimony about a fingerprint match will not necessarily credit all of the facts that supported the opinion.

The possibility that an expert's opinion may lack much probative value because of unreliability in the underlying facts or data does not raise any concerns addressed by the Confrontation Clause. This Court has interpreted the Clause *not* as a "substantive guarantee" that "commands * * * that evidence be reliable." *Crawford*, 541 U.S. at 61. The Confrontation Clause is instead a procedural protection that ensures that the reliability of testimonial evidence "be assessed in a particular manner: by testing in the crucible of cross-examination." *Ibid.* Live expert-opinion testimony can be subjected to cross-examination, which can lay bare the expert's analysis and assumptions. With such cross-examination, "the factfinder and the adver-

sary system" can be presumed "competent to uncover, recognize, and take due account of [any] shortcomings" in that testimony. *Barefoot* v. *Estelle*, 463 U.S. 880, 899 (1983).

3. Petitioner cites (Br. 21) *People* v. *Goldstein*, 843 N.E.2d 727, 732-733 (N.Y. 2005), cert. denied, 547 U.S. 1159 (2006), for the proposition that the "distinction between a statement offered for its truth and a statement offered to shed light on an expert's opinion is not meaningful in this context." But the context of *Goldstein* is entirely different from the context of this case.

Goldstein involved a forensic psychiatrist who testified as a prosecution witness to rebut a murder defendant's insanity defense. The expert rested her opinion—that the defendant used his mental illness as an excuse—in part on her interviews of six individuals whose statements she relayed to the jury. 843 N.E.2d at 729. The expert testified, for instance, that one individual recounted that the defendant said "I'm schizophrenic" after assaulting a different woman and that another individual described a woman who had "frustrated him sexually," who, the psychiatrist said, closely resembled the murder victim. *Id.* at 729-730. The individuals did not testify, *id.* at 730, and, as the defendant pointed out to the New York Court of Appeals, no limiting instruction told jurors not to use their statements for the truth. See Def. Reply Br. at 4, *Goldstein*, *supra* (filed Oct. 2005). The Confrontation Clause concerns in that setting are obvious.

In addition, the statements in *Goldstein* constituted narrative reports of lay witnesses, offered by a state-hired psychiatrist who assumed the prototypical law-enforcement role of investigating a crime by seeking out and interviewing witnesses who knew the defendant.

The statements required no interpretation by an expert before the jury could use them against the defendant. Cf. *Davis*, 547 U.S. at 826 (indicating that the Confrontation Clause cannot be "evaded by having a note-taking policeman recite the unsworn hearsay testimony of the declarant, instead of having the declarant sign a deposition") (emphasis omitted). And the psychiatrist explained to the jury that her purpose in securing the statements was "to get to the truth." 843 N.E.2d at 732. A case in which, "in the guise of an expert opinion," the witness delivers direct narrative statements that need no "expertise" to interpret, *United States* v. *Mejia*, 545 F.3d 179, 199 (2d Cir. 2008) (citations omitted), may raise distinct issues either under the Confrontation Clause, see *ibid.* (finding Confrontation Clause violation when law-enforcement expert "simply summariz[ed] an investigation by others"), or other legal rules. In contrast, when an expert supplies her own expert opinion relying in part on the analytical work of or information from others, courts have correctly concluded that the expert's reliance on such hearsay information (if not admitted for its truth) does not violate the Confrontation Clause.[5]

C. Safeguards In The Criminal Process Protect Against Misuse Of Expert Testimony

In addition to the protection of limiting instructions, which the jury is presumed to follow, see pp. 19-20, *su-*

[5] See, *e.g.*, *United States* v. *Turner*, 591 F.3d 928, 932-933 (7th Cir. 2010), petition for cert. pending, No. 09-10231 (filed Apr. 12, 2010); *United States* v. *Johnson*, 587 F.3d 625, 635-636 (4th Cir. 2009), cert. denied, 130 S. Ct. 2128 (2010); *Smith* v. *State*, 28 So. 3d 838, 854-855 (Fla. 2009), cert. denied, 131 S. Ct. 3087 (2011); *State* v. *Tucker*, 160 P.3d 177, 194 (Az.), cert. denied, 552 U.S. 923 (2007). But see *Derr* v. *State*, No. 2010-6, 2011 WL 4483937, at *12-*15 (Md. Sept. 29, 2011).

pra, a variety of other provisions guard against "the risk of prejudice resulting from the jury's potential misuse" of the basis of the expert's testimony "for substantive purposes." Fed. R. Evid. 703 advisory comm. note (2000 amendment). Those rules help alleviate Confrontation Clause concerns that a jury might improperly rely on otherwise-inadmissible testimonial data on which an expert relied in forming her opinion.

First, federal and state evidentiary rules create gatekeeping hurdles to the admission of expert-opinion testimony. The federal rules, for instance, require that expert "testimony [must] 'assist the trier of fact to understand the evidence or to determine a fact in issue.'" *Daubert*, 509 U.S. at 591 (quoting Fed. R. Evid. 702). Because that standard requires "a valid scientific connection *to the pertinent inquiry* [in the case] as a precondition to admissibility," *id.* at 591-592 (emphasis added), a court's "gatekeeping inquiry must be 'tied to the facts.'" *Kumho Tire Co.*, 526 U.S. at 150, 158 (quoting *Daubert*, 509 U.S. at 591). "[T]he trial court must scrutinize not only the principles and methods used by the expert, but also whether those principles and methods have been properly applied to the facts." Fed. R. Evid. 702 advisory comm. note (2000 amendment). Illinois law similarly requires that expert testimony "assist the trier of fact to understand the evidence or to determine a fact in issue," Ill. R. Evid. 702. Under those rules, the expert should not clear the gate if the expert opinion is not reliably connected to the facts of the case.

Second, Federal Rule 703 precludes the proponent of the expert opinion from disclosing inadmissible facts or data on which the expert relied "unless the court determines that their probative value in assisting the jury to evaluate the expert's opinion substantially outweighs

their prejudicial effect." The court must thus guard against the risk of prejudice from the use of the facts or data as "substantive" evidence. Fed. R. Evid. 703 advisory comm. note (2000 amendment).

Third, "[t]he expert may in any event be required to disclose the underlying facts or data on cross-examination." Fed. R. Evid. 705. Cross-examination allows the defendant to highlight the expert's ignorance about the data on which he relied and to remind the trier of fact of the limited purposes for which such second-hand information is being disclosed. And mandatory discovery equips the defendant to expose weaknesses in the expert's reliance on such data. Fed. R. Crim. P. 16(a)(1)(G) (written summary must describe not only the expert's opinions but "the bases and reasons for those opinions"); see also Ill. Sup. Ct. R. 417(b) (detailed disclosure requirements for DNA evidence).

"If a particular guarantee of the Sixth Amendment is violated, no substitute procedure can cure the violation." *Bullcoming*, 131 S. Ct. at 2716 (internal quotation marks omitted); *ibid.* (finding "the opportunity to confront a substitute witness" inadequate). But the procedures that surround expert testimony—gatekeeping, limitations on the admission of prejudicial testimony, cross-examination, and limiting instructions—help prevent misuse of the basis of expert testimony in the first place.

II. THE EXPERT-OPINION TESTIMONY IN THIS CASE DID NOT VIOLATE THE CONFRONTATION CLAUSE

A. The Only Testimony Lambatos Offered For Its Truth Was Her Expert Opinion

Lambatos's expert-opinion testimony did not violate the Confrontation Clause because she offered her own

opinion that the Cellmark DNA profile matched the ISP's DNA profile of petitioner's blood. Her description of the underlying data obtained from Cellmark was admitted simply to aid the judge in understanding the basis for her opinion, not for the truth of the data. As the Illinois Supreme Court explained, state law has long specified that such underlying data if otherwise inadmissible will be considered only "for the limited purpose of explaining the basis for [her expert opinion]," not for showing "the truth of the matter asserted." J.A. 164 (citation omitted); see, *e.g.*, *Pasch*, 604 N.E.2d at 311. The trial judge is therefore presumed to have considered that testimony only as the law permitted. See pp. 20-21, *supra*; see also *Lambrix* v. *Singletary*, 520 U.S. 518, 532 n.4 (1997) (state trial judges are "presumed to know the law and to apply it in making their decisions," including decisional law developed by a state supreme court) (citation omitted). As the Illinois Supreme Court held, the trial judge properly considered and weighed the fact that Lambatos "didn't do the actual test." J.A. 159-160 (quoting trial verdict at Tr. JJJ-151). Because the Cellmark data was not considered for the truth, the Confrontation Clause does not apply. *Crawford*, 541 U.S. at 60 n.9.

B. Circumstantial Evidence Linked Lambatos's Opinion To This Case

While Lambatos's opinion did have to be linked to petitioner to have probative force, circumstantial evidence provided that link. The State presented chain-of-custody evidence establishing that the vaginal swabs moved from the victim to Cellmark and back to ISP. See

pp. 2-3, *supra*.[6] Lambatos also testified that ISP routinely sent forensic samples to Cellmark for DNA testing and that Cellmark was an accredited lab and therefore would have to satisfy guidelines for performing DNA analysis including those to ensure proper instrument calibration and controlled testing. J.A. 49, 59-60, 73-74. That unrebutted circumstantial showing was sufficient to permit the trial judge to conclude that Lambatos's expert opinion (based in part on data she received from Cellmark) pertained to the semen recovered from the victim.

[6] To the extent that petitioner now challenges that evidence (Br. 18), he failed to preserve that constitutional claim at trial and did not raise it either in the Illinois Supreme Court or in his petition for a writ of certiorari. Illinois law requires a "contemporaneous objection when the evidence [i]s offered," *People* v. *Cortes*, 692 N.E.2d 1129, 1146-1147 (Ill.), cert. denied, 525 U.S. 882 (1998), and a renewal of that objection in a written post-trial motion. *People* v. *Simpson*, 665 N.E.2d 1228, 1243 (Ill.), cert. denied, 519 U.S. 982 (1996); *People* v. *Enoch*, 522 N.E.2d 1124, 1130 (Ill.), cert. denied, 488 U.S. 917 (1988). Petitioner's contemporaneous and post-trial objections to the evidence were that it was "hearsay." J.A. 51, 100 (¶ 10). The trial court ruled that the records were "kept in the normal course of business" and rejected petitioner's claim that the records were kept for the purpose of litigation and as part of a criminal investigation, finding instead that the records are maintained by ISP to track evidence, much of which would never be used in litigation. Tr. JJJ-119 to JJJ-120. Petitioner unsuccessfully argued on appeal that the State's chain-of-custody evidence was insufficient because, *inter alia*, ISP's shipping manifests for this case were not admissible under the hearsay exception for business records. See J.A. 103, 122. Petitioner's brief on appeal did not rely on the Confrontation Clause for this objection, see Pet. Ill. App. Ct. Br. 13, the intermediate appellate court did not address a constitutional claim in this context, J.A. 122, and petitioner thereafter failed to reassert his state-law contention. See Pet. 9-22; Pet. Ill. Sup. Ct. Br. 1-32.

C. Lambatos's Testimony, Taken As A Whole, Did Not Convey Statements Of Cellmark

Petitioner argues (Br. 18-19) that portions of Lambatos's direct testimony (J.A. 55-58) violated the Confrontation Clause. He asserts that Lambatos "conveyed the substance of testimonial assertions made by Cellmark" by indicating that "Cellmark deduced a male DNA profile from the vaginal swabs" and that, "[a]fter receiving the results of Cellmark's analysis, [she] conducted a statistical comparison" using that profile and the one obtained from petitioner's blood and found a match. Pet. Br. 18-19.[7] While Lambatos did refer to the DNA found in the semen from the victim's vaginal swaps, J.A. 56-57, when her testimony is read as a whole and in light of Illinois evidentiary law, petitioner's view that Lambatos was relaying statements from Cellmark is unfounded.

Petitioner implicitly acknowledges (Br. 15-18) that Lambatos's direct testimony did not repeat anything Cellmark said, but he attributes to her testimony implied statements from Cellmark that it "performed DNA

[7] On cross-examination, petitioner elicited from Lambatos a significant amount of detail about the DNA testing information that Cellmark provided to ISP. See J.A. 58-86. Petitioner does not challenge that testimony, and for good reason. A litigant cannot properly challenge the admission of evidence that he has affirmatively elicited. See, *e.g.*, *Ohler* v. *United States*, 529 U.S. 753, 755-758 (2000); *McGillin* v. *Bennett*, 132 U.S. 445, 452-453 (1889); *Avendano* v. *Gay*, 75 U.S. (8 Wall.) 376, 377 (1869). Defendants thus cannot assert a Confrontation Clause claim based on "evidence admitted during * * * cross-examination" because the court's error, if any, was an "error[] that [the defendant] himself invited or provoked." *United States* v. *Cromer*, 389 F.3d 662, 678 n.11 (6th Cir. 2004); see *United States* v. *Lopez-Medina*, 596 F.3d 716, 733 n.10 (10th Cir. 2010); *United States* v. *Acosta*, 475 F.3d 677, 679 (5th Cir. 2007).

analysis on the vaginal swabs and successfully deduced a male DNA profile from the swabs" (Br. 19). But as petitioner acknowledges (Br. 18), Lambatos's testimony on cross-examination revealed that she had no personal knowledge of how Cellmark developed the particular DNA profile she received. J.A. 59-60. Expert testimony should be understood as a whole. Cf. *McDaniel* v. *Brown*, 130 S. Ct. 665, 671 (2010) (per curiam) (interpreting expert testimony "as a whole"); *Anderson* v. *Charles*, 447 U.S. 404, 408-409 (1980) (analyzing cross-examination "taken as a whole").[8] Given Lambatos's disclaimer of personal knowledge, the trial court would not have taken her testimony as implying what Cellmark actually did. Rather, the court would have accepted Lambatos's testimony that she used the profile from Cellmark in finding a match, but would have filtered out any implied statements by Cellmark. "[T]he State did not offer Lambatos' testimony regarding the Cellmark report for the truth of the matter asserted." J.A. 172. And, in light of state law that admitted information from Cellmark underlying the expert's opinion only for the limited purpose of assessing her opinion, the state appellate courts concluded that the trial court followed that approach, J.A. 124-127, 160-165, 172, and used the information only "in assessing the value of Lambatos' opinion," J.A. 172. Given that conclusion as a matter of state law, Lambatos's testimony did not relay any testimonial

[8] Cf. also, *e.g.*, *United States* v. *Farmer*, 543 F.3d 363, 371-372 (7th Cir. 2008) (finding cross-examination sufficiently diminished risk that jury would confuse expert's "direct observations with his expert knowledge"); *Mendes-Silva* v. *United States*, 980 F.2d 1482, 1487-1488 (D.C. Cir. 1993) (interpreting expert's statement "in its proper context" by considering his "entire" testimony).

hearsay and thus did not violate the Confrontation Clause.

CONCLUSION

The judgment of the Illinois Supreme Court should be affirmed.

Respectfully submitted.

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AMICUS CURIAE BRIEF

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In The
Supreme Court of the United States

SANDY WILLIAMS,

Petitioner,

v.

ILLINOIS,

Respondent.

On Writ Of Certiorari To The Supreme Court Of Illinois

BRIEF OF *AMICI CURIAE* CALIFORNIA PUBLIC DEFENDERS ASSOCIATION, CALIFORNIA DUI LAWYERS ASSOCIATION AND THE MEXICAN AMERICAN BAR ASSOCIATION (OF LOS ANGELES COUNTY) IN SUPPORT OF PETITIONER

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INTEREST OF *AMICI CURIAE*[1]

Amici Curiae the California Public Defenders Association (CPDA), California DUI Lawyers Association (CDLA) and the Mexican American Bar Association (of Los Angeles County) (MABA) respectfully requests permission to file the attached *Amici Curiae* Brief in support of the Petitioner, Sandy Williams. This Court's decision with respect to the question presented in this case will likely have significant impact in criminal litigation in California. Many members of CPDA, CDLA and MABA represent defendants in criminal prosecutions in California. Therefore, CPDA, CDLA and MABA seek to make this Court aware of their concerns with regard to the impact this case may have on criminal defendants' Sixth Amendment rights.

CPDA is the largest association of public defenders and private criminal defense attorneys in the State of California. CPDA has approximately 4000 members. Collectively, its members deal with forensic evidence and prosecution expert witnesses on a regular basis and, as such, have an interest in the outcome of this case.

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[1] Pursuant to Rule 37.6, counsel for *amici* states that no counsel for a party authored this brief in whole or in part and no person, other than *amici*, its members, or its counsel made a monetary contribution to the preparation of this brief. The parties consented to the filing of this brief. Under Rule 37.3(a), both parties to this case have provided consent for the filing of *amicus* briefs in support of either party, which is on file with the Clerk's office.

CDLA is a non-profit corporation. CDLA has over 300 members. CDLA holds continuing education seminars around the state on topics related to driving under the influence charges. CDLA also maintains a website that has information pertaining to a variety of areas of interest in the DUI field. Collectively, the members of CDLA deal with forensic experts on an extensive and regular basis in California.

The Mexican American Bar Association (of Los Angeles) is a non-profit corporation. It is committed to the advancement of Latinos in the Legal Profession. The Association has put on numerous legal seminars. The Association has over 800 members. Many of the members represent people in criminal prosecutions in the state of California. In some of these cases expert witnesses may be called on behalf of the prosecution. As such, there is an interest in the outcome of the current case before the Court.

SUMMARY OF ARGUMENT

If an expert witness for the prosecution is allowed to render an opinion based upon the testimonial hearsay of a non-testifying expert, then the burden will fall on the defendant to try and secure the non-testifying expert's attendance in court if the defendant wants to confront the non-testifying expert. In many instances it will not be possible for the defendant to secure such attendance. The reason for this begins with the observation that the Constitution

does not require the prosecution to provide pretrial disclosure of evidence to a defendant that is not exculpatory in nature. Consequently, the first time a defendant may discover the full basis of the testifying expert's opinion is during trial. If that opinion is based upon another expert's opinion who did not testify, time constraints and other procedural hurdles may make it practically impossible for a defendant to subpoena the witness who did not testify.

Allowing prosecution experts to render opinions based upon the testimonial hearsay of non-testifying experts will inevitably lead some prosecutors to select experts based upon their ability to perform well in front of a jury. This also will allow prosecutors to avoid calling an expert witness who did the actual analysis in a case, but has problems with their past work or problems with their qualifications. This was not the intent of the Confrontation Clause.

ARGUMENT

I. Permitting A Prosecution Expert To Base An Opinion On The Testimonial Hearsay Of A Non-Testifying Expert Would Place The Burden On The Defense To Try And Secure The Non-Testifying Expert's Testimony Which In Many Cases Would Be Impossible.

Allowing an expert witness to render an opinion in court based upon facts developed to prosecute a

defendant by a non-testifying witness violates the Confrontation Clause. In many instances, the process would make it virtually impossible for the defense to secure the presence of the non-testifying witness who the in-court expert relied upon in rendering an opinion. Securing attendance of prosecution witnesses at trial should not be the obligation of a defendant. As this Court has previously stated "[m]ore fundamentally the Confrontation Clause imposes a burden on the prosecution to present its witnesses, not on the defendant to bring those adverse witnesses into court." *Melendez-Diaz v. Massachusetts*, 129 S.Ct. 2527, 2540 (2009).

Yet this burden shifting is what is likely to happen if prosecution experts are allowed to give opinions in court based upon testimonial hearsay. Prosecutors would then be free to have their experts give opinions which are based upon the testimonial hearsay of another witness who, as a practical matter, may be beyond the defendant's reach.

A. The First Time A Defendant May Discover What The Prosecution's Expert Is Relying Upon To Render An Opinion Is During Trial.

How this will transpire in real life trial practice begins with the observation that there is no federal constitutional requirement for the prosecution to provide the defense with evidence that helps establish the defendant's guilt. The Due Process Clause

only requires the prosecution to disclose material evidence favorable to the defense on the issue of guilt or punishment. *Brady v. Maryland*, 373 U.S. 83, 87 (1963). The Constitution does not require the prosecution to provide discovery of unfavorable evidence. Thus, unfavorable testimonial hearsay that a prosecution expert intends to rely upon in rendering an opinion need not be disclosed to the defense. As this Court noted, "[i]t does not follow from the prohibition against concealing evidence favorable to the accused that the prosecution must reveal before trial the names of all witnesses who will testify unfavorably. There is no general constitutional right to discovery in a criminal case, and *Brady* did not create one." *Weatherford v. Bursey*, 429 U.S. 545, 559 (1977).

As a result, the first time a defendant in any given case may fully discover what the prosecution expert is basing his or her opinion on is during the expert's testimony at trial. If the basis of the expert's opinion involves the testimonial hearsay of a non-testifying expert the defense has very limited options to challenge that hearsay. This is particularly true if the disclosure of the testimonial hearsay is made during the time management storm of a jury trial.

Having unexpected witnesses turn up in a trial in not an unheard of event. This Court's recent decision in *Bullcoming v. New Mexico*, 131 S.Ct. 2705 (2011) is demonstrative. In that case counsel for the accused learned only moments before the witness took the stand that another expert (other than the one who did the forensic analysis) was going to testify. *Id.*

at p. 2712. This is by no means an atypical event. It is particularly common in the prosecution of misdemeanor offenses where a prosecutor will indicate that one of a number of analysts from the crime laboratory may testify and the one who will actually testify will be based upon availability. As mentioned, the Constitution does not require disclosure of unfavorable witnesses. To the extent state statutes may mandate pre-trial disclosure these statutes, of course, may be changed. In California the prosecution must provide to the defense any expert reports, examinations, tests, experiments or comparisons the prosecution intends to offer into evidence at trial. Cal. Pen. Code § 1054.1(f).

B. There Are Many Problems The Defense Would Have In Trying To Secure The Attendance Of Prosecution Witnesses That A Prosecution's Expert Relied Upon In Rendering An Opinion.

Consider what will happen in a state court prosecution if the testimonial hearsay that a prosecution expert relies upon derives from a federal actor who created the testimonial hearsay during the course of his or her federal duties. For example, suppose that the prosecution's expert is relying upon a report prepared by an analyst from the FBI crime laboratory. If the prosecution does not call the FBI analyst, and the defendant wanted to confront the analyst, a state court would have no authority to compel the federal analyst's attendance. *See U.S. ex*

rel. Touhy v. Ragen, 340 U.S. 462 (1951). A state court simply lacks jurisdiction to use its contempt powers in this setting. *Swett v. Schenk*, 792 F.2d 1447, 1451 (9th Cir. 1986).

To be sure there is an arguable process in which a defendant can attempt to secure the attendance of this FBI analyst. This process stems from 5 U.S.C. § 301, the so-called "housekeeping statute." This statute allows the head of an executive department to promulgate regulations for the conduct of its employees and use of its records, including responding to subpoenas. A state court defendant seeking the testimony of the FBI analyst could make a request under the housekeeping statute for the analyst's appearance through these regulations.

If the head of the department denies the defendant's request to have the analyst testify the defendant has the option to file a civil lawsuit under the Administrative Procedure Act (APA) to challenge the denial of the request, or seek a federal mandamus action. *See In re Boeh*, 25 F.3d 761, 764 n. 3 (9th Cir. 1994). Attempting to undertake either of these remedies during trial, or even near trial, is so daunting an undertaking as to render them essentially useless. This cannot have been the vision of the Confrontation Clause.

In a state criminal case the process for subpoenaing a witness, who is not a federal agent, but is located out-of-state is not a simple undertaking either. Suppose for example, a defendant in a California state court wanted to subpoena the analyst who

the state's expert was relying upon in a criminal prosecution. Suppose further that the analyst resides in Virginia. In California the procedure for trying to obtain an out-of-state witness is set forth in Cal. Pen. Code §§ 1334 *et seq.*, The Uniform Act to Secure the Attendance of Witnesses from without the State in Criminal Cases. The State of Virginia has similar provisions. The procedure requires the defense to first present an application to the trial court for an order and certificate for the attendance of the witness. Assuming the trial court endorses the order and authorizes the issuance of the certificate, counsel must then present the order and certificate to the foreign court where the witness dwells. This may require the assistance of out-of-state counsel since defense counsel may not be a member of the Virginia bar where the witness resides.

If at the hearing in Virginia the court determines that an appearance in the requesting state will not cause undue hardship to the witness, and that the witness is determined to be material and necessary, then the court can order the witness to attend the out-of-state trial. *See* Va. Code Ann. § 19.2-274. If, on the other hand, the Virginia court determines the travel would cause the witness undue hardship, under the Uniform Act the defendant would not be entitled to confront the witness. Again, all of the burdens and risks in attempting to secure a prosecution witness land on the defendant's path, not on that of the prosecution.

In presenting the above hypotheticals *amici* have assumed that the accused and his counsel are financially able to undertake these efforts. While such undertakings may be feasible for an affluent defendant from West Los Angeles, it may not be so readily available for a lower socioeconomic defendant from across town in East L.A. Is a court going to authorize funds for a defendant to hire a civil attorney to pursue a civil suit under the APA? What of the defendant, who is not indigent, yet was barely able to afford to retain private counsel? Will this person be able to secure court ordered funding to hire an out-of-state lawyer? Might a court rule that since the defendant cannot show that the sought after witness has exculpatory evidence, funds will not be granted as there is no obvious material need for the witness? Will the defendant's right to confront his or her accusers depend on the defendant's ability to prove to a court before cross-examination of the witness what the cross-examination will reveal? None of these questions should ever need to be asked (let alone answered) if the basic proposition is adhered to that the prosecution should be required to produce prosecution witnesses.

If that basic rule is not followed then only if all of the above referenced legal obstacles can be surmounted, and then only if all of this can be done in a timely fashion, and then only if the out-of-state witness complies with the court order, will a defendant's right of confrontation be realized. Placing all of these procedural millstones on a defendant just so the

defendant can exercise a constitutional right does not seem to be in harmony with the concept of fundamental rights.

The right of confrontation is a fundamental right. Long ago Sir Matthew Hale confirmed this tenet when he commented that confrontation emanates from the "[P]ersonal Appearance and Testimony of Witnesses." Matthew Hale, The History of the Common Law of England 258 (1713). It does not emanate from the appearance of someone other than the true witness.

The *amici* suggest that in a criminal prosecution an expert witness should be allowed to base opinions on inadmissible material that experts normally rely upon except if the evidence is testimonial in nature and has not been produced in court. Similar limitations in other contexts have already been placed on experts to protect other rights.

For example, 23 U.S.C. § 409 prohibits in general terms the admission into evidence of certain reports and data that were collected to help assess the safety of roadways and railway-highway crossings. One of the purposes of the statute is to allow for candor in addressing dangerous highway conditions without having the fear that any information obtained during this process will be used in later litigation. *Robertson v. Union Pac. R. Co.*, 954 F.2d 1433, 1435 (8th Cir. 1992). In order to protect the purpose of the statute the court in *Robertson* affirmed the district court's order that precluded the appellant's expert from

basing his opinion on information compiled from material referenced in 23 U.S.C. § 409. *Id.*, at p. 1435.

For a similar ruling prohibiting an expert from forming an opinion based upon statutorily privileged information see the California Supreme Court's decision in *Fox v. Kramer*, 22 Cal.4th 531 (2000). If the law can prohibit experts from basing opinions that would violate statutorily protected rights, it seems the law should not permit experts to render opinions that would do harm to constitutionally protected rights.

II. ALLOWING PROSECUTION EXPERTS TO TESTIFY BASED ON THE TESTIMONIAL HEARSAY OF ANOTHER EXPERT WILL RESULT IN THE USE OF SURROGATE WITNESSES.

Allowing experts to render opinions based upon the testimonial hearsay of another expert will be an invitation for prosecutors to forego calling the expert who performed a given analysis. Prosecutors will consider calling experts whose main criteria is that they present well. Central casting will start to infiltrate courtrooms in America.

In some regard, this casting call has already been sent out and answered. In the course of trial, rather than presenting the testimony of an expert who conducted an analysis of the evidence in question, prosecutors are already retaining selected expert witnesses to testify on behalf of the experts who did the analysis. In doing so not only does the testifying

expert relate his or her opinion, but in many instances during the course of direct or cross-examination the expert inevitably ends up, at least inferentially, relating to the jury the findings and conclusions of the absentee expert.

This practice of presenting otherwise inadmissible testimonial hearsay evidence under the guise of the opinion of an expert witness should not be condoned. To do so would simply allow the prosecutor to present a selected and favorable expert to testify and relate an opinion based upon work done entirely by another. If such prosecutorial practices are permitted, it will open the door to prosecutors hiring expert witnesses to testify at trial regardless of any flaw in the credentials or work done by the absentee expert. A more calculating prosecutor would be permitted to hire an expert witness only to testify in front of the jury, so long as he or she presents well and has no known "baggage."

Such is what occurred in *People v. Dungo*, 98 Cal.Rptr.3d 702 (Cal. Ct. App.).[3] In *Dungo*, the prosecution presented Dr. Robert Lawrence as a witness in place of Dr. George Bolduc, who actually conducted the autopsy of the murder victim. Although Dr. Lawrence was not present at the autopsy, he was permitted to

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[3] Review of this opinion has been granted by the California Supreme Court (S176886), wherein supplemental briefing has been requested by the court in light of this Court's decision in *Bullcoming v. New Mexico* (July 13, 2011).

testify as to the cause of death, and this shielded Dr. Bolduc's poor professional history from the trier of fact. In this regard, during a pre-trial hearing, evidence was presented outside the presence of the jury that Dr. Bolduc had been fired from Kern County, he had been allowed to resign "under a cloud" from Orange County, and that Stanislaus and San Joaquin County prosecutors refused to have him testify in homicide cases. As explained by Dr. Lawrence in the course of that hearing, "if Dr. Bolduc testifies 'it becomes too awkward [for the district attorney] to make them easily try their cases. And for that reason, they want to use me instead of him.'" *People v. Dungo*, *supra*, 98 Cal.Rptr.3d at p. 704.

In *Dungo*, the prosecutor utilized the surrogate expert witness to introduce the testimonial hearsay of the absentee expert who actually conducted the autopsy. As a result, Dr. Bolduc and his "baggage" were not presented to the jury. By presenting Dr. Bolduc's testimonial hearsay opinion through the testimony of the surrogate expert, the prosecutor effectively deprived the defense of an opportunity to confront and cross-examine Dr. Bolduc, the absentee expert, regarding his qualifications, competency, findings, and opinions.

Similarly, in *Bullcoming v. New Mexico*, *supra*, 131 S.Ct. at p. 2715 this Court noted that "Razatos [the surrogate expert] had no knowledge of the reason why Caylor [the testimonial hearsay declarant] had been placed on unpaid leave." Additionally, the Court highlighted that "Razatos acknowledged that 'you

don't know unless you actually observe the analysis that someone else conducts, whether they followed [the] protocol in every instance.'" *Id.*, at p. 2715, n. 8.

As demonstrated in *Dungo* and *Bullcoming*, and as every trial lawyer knows, a trial is not a static event. Trials do not take place in a coroner's office. Trials do not take place in the crime lab. Trials take place in a court room. A trial is a living, breathing event. It is subject to boredom, drama, and unexpected turn of events. Witnesses change stories, unforeseen rulings occur, and newly discovered evidence appears. All of which make trials dynamic occurrences.

In trial, it is cross-examination that causes the most dynamic friction. Witnesses exaggerate and emote. They concede and confess. And, they fidget, fib, and forget. If the law insulates a witness who has prepared testimonial evidence from confrontation, then none of these things, not one of them, will ever be seen by the jury.

Throughout the country, trial courts recognize the importance of the jury actually observing, witnessing, and assessing those proffering testimonial evidence. For example, in assessing the credibility of witnesses, jurors are advised to consider the witness' opportunity and ability to perceive, the witness' memory, the manner in which he or she testifies, his or her interest, bias or prejudice, and other relevant factors. Of course, this cannot occur when a hired expert acts as a surrogate in relating the testimonial hearsay of an absentee witness. *See* Ninth Circuit

Model Criminal Jury Instructions, No. 3.9; California Jury Instructions, CALCRIM 226.

Permitting the utilization of an absentee expert to relate the testimonial hearsay of another conceals all of the factors which the trier of fact needs to assess the accuracy, truthfulness, biases, and reliability of the hearsay declarant. Such is the specific information which could only be disclosed by cross-examination of the hearsay declarant. *Melendez-Diaz v. Massachusetts,* 129 S.Ct. 2527, 2537 (2009).

Further, even those attorneys well-adept at cross-examination will be unable to uncover from the testifying surrogate expert witness, deficiencies in the qualifications, findings, and opinions of the concealed absentee expert. As noted in *Crawford v. Washington*, 541 U.S. 36, 49 (2004), "'[N]othing can be more essential than the cross examining [of] witnesses, and generally before the triers of the facts in question . . . ,'" quoting R. Lee, *Letter IV by the Federal Farmer* (Oct. 15, 1787), reprinted in 1 B. Schwartz, *The Bill of Rights: A Documentary History* 235, 469, 473 (1971).

Supplementing these principles, in *Bullcoming v. New Mexico,* this Court further stated that the " . . . [Confrontation] Clause does not tolerate dispensing with confrontation simply because the court believes that questioning one witness about another's testimonial statements provides a fair enough opportunity for cross-examination." *Id.*, at p. 2716.

Allowing the prosecution to present a hired surrogate expert witness to present the testimonial

hearsay of an absentee witness precludes the trier of fact from truly assessing the credibility, reliability or outright fraud committed by the absentee witness. Presentation at trial of the testimonial hearsay through the surrogate is even more aggravated when the surrogate has no personal knowledge of the absentee expert or any fraud committed by the later expert. Mere cross-examination of the expert who is presented cannot serve as a proper, let alone competent, substitute for ascertaining the truth.

As noted by this Court in *Melendez-Diaz v. Massachusetts*, *supra*, 129 S.Ct. at pp. 2536-2537, despite the expectation that science is pure and expert witnesses are devoid of fraudulent intentions, such is not reality. Referencing a study conducted under the auspices of the National Academy of Sciences, this Court found that "[F]orensic evidence is not uniquely immune from the risk of manipulation," nor is "neutral scientific testing" necessarily neutral or reliable. National Research Council of the National Academies, *Strengthening Forensic Science in the United States: A Path Forward*, Committee on Identifying the Needs of the Forensic Sciences Community, National Research Council, National Research Council of the National Academies, 6-1 (Prepublication Copy Feb. 2009.[4]

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[4] *See also*, "Lab Chief's Fraud Casts Doubt on Blood Test Results in DUI Cases," San Francisco Chronicle, Jason VanDerbeken (May 25, 2010) [coroner's supervising toxicologist fraudulently vouched for hundreds of blood-test results in drunk

(Continued on following page)

It is "[C]onfrontation [which] is designed to weed out not only the fraudulent analyst, but the incompetent one as well." 129 S.Ct. at p. 2537. A procedure which allows a Government surrogate expert to relate or rely upon the testimonial hearsay of an absentee expert not only deprives the accused of his rights of confrontation, but renders the trial a theatrical performance by an expert witness hired from central casting, rather than a search for the truth clothed with the protections of due process of law.

In *Melendez-Diaz v. Massachusetts*, this Court held that the introduction of a laboratory certificate in lieu of the actual testimony of the analysts conducting the test deprives the accused of the fundamental constitutional right of confrontation as guaranteed by the Sixth Amendment. *Id.*, 129 S.Ct. at p. 2542. For the Government to present a surrogate expert witness at trial to relate or rely upon the testimonial hearsay of an absentee expert is a distinction without a difference. The result is the same –

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driving cases in California and Washington, resulting in the dismissal of hundreds of cases]; "State v. Taylor and the North Carolina Bureau of Investigation Lab Scandal," Mike Klinkosum, The Champion (May 2011) [falsified blood tests and results]; "A Deadly Twist at Houston's Crime Lab," Randall Patterson, Houston Press News (November 26, 2008) [unqualified police crime laboratory analysts falsifying DNA results]; "Scrutiny of lab worker prompts review of some 3,000 Cases" John Asbury, Riverside Press-Enterprise (February 25, 2009) [analyst for Bio-Tox Laboratories admitted to previous fraud, forgery and perjury].

a deprivation of the accused's Sixth Amendment rights of confrontation.

As Professor Wigmore declared – cross-examination is still the "'the greatest legal engine ever invented for the discovery of truth.'" *See Perry v. Leeke*, 488 U.S. 272, 283, n. 7 (1989), citing 5 J. Wigmore, *Evidence* (J. Chadbourn rev. 1974) § 1367, p. 29. The fuel that makes that engine go, however, is the right to confront those who prepared the facts.

CONCLUSION

Based upon the foregoing arguments the judgment of the Illinois Supreme Court should be reversed.

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September 7, 2011

AMICUS CURIAE BRIEF

No. 10-8505

In The

Supreme Court of the United States

SANDY WILLIAMS,

Petitioner,

v.

THE STATE OF ILLINOIS,

Respondent.

On Writ Of Certiorari To The Supreme Court Of Illinois

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INTEREST OF *AMICUS CURIAE*[1]

Amicus is a legal academic holding the title of Alene and Allan F. Smith Professor of Law at the University of Michigan Law School. Since 1982 he has taught Evidence law, among other subjects. He is general editor of THE NEW WIGMORE: A TREATISE ON EVIDENCE, author of THE ELEMENTS OF EVIDENCE (3d ed. 2004), and co-author of EVIDENCE (11th ed. 2009; with Jon Walz and Roger C. Park).

Much of the academic work of *amicus* has dealt with the right of an accused under the Sixth Amendment "to be confronted with the witnesses against him." He has written many articles and essays on that right, and since 2004 he has maintained The Confrontation Blog, www.confrontationright.blogspot.com, to report and comment on developments related to it. *Amicus* successfully represented the petitioners in *Hammon v. Indiana* (decided together with *Davis v. Washington*, 547 U.S. 813 (2006)), and *Briscoe v. Virginia*, 130 S.Ct. 1316 (2010).

As he has previously done in several cases before this Court, *amicus* submits this brief on behalf of

[1] Each party has filed with the clerk a global consent to the filing of any *amicus* brief on the merits of this case. Part of the cost of preparing and submitting this brief was paid for by research funds provided by the University of Michigan Law School to *amicus* and under his control. The brief does not necessarily reflect the views of that Law School or of any of its faculty other than *amicus*. Except as just noted, no persons or entities other than the *amicus* made any monetary contribution to the preparation or submission of this brief, which was not authored in any part by counsel for either party.

himself only; he has not asked any other person or entity to join in it. He is doing this so that he can express his own thoughts, entirely in his own voice. In some situations, such as the one presented by *Giles v. California*, 554 U.S. 353 (2008), his views principally favor the prosecution; in others, as in this case, his views principally favor the defense. His desire, in accordance with his academic work, is to promote a sound understanding of the confrontation right, one that recognizes the importance of the right in our system of criminal justice and at the same time is practical in administration and does not unduly hamper prosecution of crime.

Amicus believes that the doctrine of the Confrontation Clause, and indeed criminal trial practice in general, would be seriously distorted if this Court were to adopt a theory under which a statement presented in support of an expert witness's testimony is deemed to be outside the scope of the Confrontation Clause even though it supports that opinion only if it is true. *Amicus* further believes that the Clause would be significantly weakened if this Court were to hold that conveying the substance of a written statement to the trier of fact cannot violate the Clause unless the statement is formally introduced into evidence.

SUMMARY OF ARGUMENT

1. The Cellmark report asserted that present on the vaginal swabs taken from the victim was material containing male DNA of a profile specified by the report; Cellmark deduced the presence of this profile by subtracting out the victim's known profile from the mixed profile that it found. Though the report was not formally introduced into evidence, this crucial assertion concerning the male DNA profile was conveyed to the trier of fact; the prosecution's in-court expert indicated that the male DNA profile reported by Cellmark was such that she and a computer both matched it to the DNA profile of Petitioner. That is sufficient to invoke the Confrontation Clause. The Clause would be a sham – and the doctrine would have perverse consequences – if a prosecutor could avoid it by refraining from introducing a statement formally. Written testimonial statements as well as oral ones should be deemed to have been presented to the trier of fact, so that the Confrontation Clause is potentially invoked, if the substance of the statement is conveyed to the trier.

2. Cellmark's assertion concerning the DNA profile was clearly a testimonial statement. This is an important point to bear in mind because it frames the context of this case. It is not true that recognizing Petitioner's confrontation right in this case would require every person involved in the testing and analysis of DNA to testify at trial; the only persons who must testify live at trial are those who make testimonial statements that are effectively presented at trial. And, by the same token, if a person does make a testimonial statement, then, under the precedents of

this Court, it was functionally identical to live, in-court testimony – which means that if it was presented for the truth of a matter that it asserted then the confrontation right should apply.

3. If the judge, as trier of fact, concluded that the Cellmark report was not truthful, the report would be of no use to the prosecution. Accordingly, the report was presented for the truth of a matter that it asserted. The fact that the in-court expert used the report in support of her opinion has no bearing on this matter. Indeed, if such use were permitted to provide a basis for admission of a testimonial statement absent confrontation of the witness who made that statement, the door would be open to serious distortion of the criminal justice process.

ARGUMENT

I. THE SUBSTANCE OF TESTIMONIAL STATEMENTS THAT WERE PART OF THE CELLMARK REPORT WAS PRESENTED TO THE TRIER OF FACT, THUS INVOKING THE CONFRONTATION CLAUSE.

A. There is no per se rule that the Confrontation Clause is inapplicable to a statement that is not formally admitted into evidence.

The Cellmark report was not formally introduced into evidence. But this fact does not preclude application of the Confrontation Clause. If such a *per se* rule of non-applicability existed, the

Clause would be rendered a virtual nullity: A witness could make a testimonial statement in writing out of court, and then another witness could testify at trial as to the substance of the statement. The concerns underlying the Clause would be fully invoked, because the witness who made the written testimonial statement would have managed to convey to the trier of fact the substance of her testimony. And yet she would never have to take an oath, or confront the accused, or subject herself to cross-examination.

In modern practice, written statements, like other tangible exhibits, are often formally introduced into evidence.[2] But as *Douglas v. Alabama*, 380 U.S. 415 (1965), makes clear, such formal admission is not necessary for the Confrontation Clause to be invoked. In *Douglas*, the prosecutor, purportedly to refresh the memory of an alleged confederate of the accused, questioned him on the basis of a document that was assertedly his confession. The document was never offered into evidence, but that did not matter. This Court, in holding that the procedure had "plainly" violated the accused's confrontation right, noted that under the circumstances "the jury might improperly infer both that the statement had been made and that it was true." 380 U.S. at 419. And more recently, in *Davis v. Washington*, 547 U.S. 813, 826 (2006), the Court asserted, "[W]e do not think it conceivable that the protections of the Confrontation Clause can readily be evaded by having a note-taking policeman recite the

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[2] Indeed, the original document rule, sometimes labeled the "best evidence" rule, imposes a presumptive requirement that a party seeking to prove the contents of a document must present the document itself. *See, e.g.*, FED. R. EVID. 1001 *et seq.*

unsworn hearsay testimony of the declarant, instead of having the declarant sign a deposition."

That applicability of the Confrontation Clause does not depend on formal introduction of a tangible manifestation of the statement in question is made obvious by considering oral statements that have not been recorded. By definition, no tangible manifestation of such a statement exists. Accordingly, the prosecution must present an in-court witness to testify to the substance of the statement. But if the witness who does so is not the person who made the statement, there is a potential Confrontation Clause problem.

It is well established that a verbatim repetition of the statement, or even an attempt to quote it, is not necessary for the Confrontation Clause to come into play. In *Idaho v. Wright*, 497 U.S. 805 (1990), for example, the in-court witness reported conversation from notes that were "not detailed," 497 U.S. at 811.[3]

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[3] The examination of the in-court witness in *Wright* illustrates the summary nature of the testimony by which out-of-court testimonial statements are often reported to the trier of fact:

> "Q. . . . [W]hat was, as best you recollect, what was her response to the question 'Do you play with daddy?'
>
> "A. Yes, we play – I remember her making a comment about yes we play a lot and expanding on that and talking about spending time with daddy.
>
> "Q. And 'Does daddy play with you?' Was there any response?
>
> "A. She responded to that as well, that they played

See, e.g., Ocampo v. Vail, 2011 WL 2275798 (9th Cir. June 9, 2011) (even before *Crawford v. Washington*,

> together in a variety of circumstances and, you know, seemed very unaffected by the question.
>
> "Q. And then what did you say and her response?
>
> "A. When I asked her 'Does daddy touch you with his pee-pee,' she did admit to that. When I asked, 'Do you touch his pee-pee.' she did not have any response.
>
> "Q. Excuse me. Did you notice any change in her affect or attitude in that line of questioning?
>
> "A. Yes.
>
> "Q. What did you observe?
>
> "A. She would not – oh, she did not talk any further about that. She would not elucidate what exactly-what kind of touching was taking place, or how it was happening. She did, however, say that daddy does do this with me, but he does it a lot more with my sister than with me.
>
> "Q. And how did she offer that last statement? Was that in response to a question or was that just a volunteered statement?
>
> "A. That was a volunteered statement as I sat and waited for her to respond, again after she sort of clammed-up, and that was the next statement that she made after just allowing some silence to occur."

497 U.S. at 810-11.

541 U.S. 36 (2004), Supreme Court case law clearly established that out-of-court statements "trigger[] the protections of the Confrontation Clause, even if the in-court testimony described rather than quoted the out-of-court statements"; citing *Wright*); *State v. Swaney*, 787 N.W.2d 541, 554 (Minn. 2010) (holding that trial court "violates the Confrontation Clause when it admits testimony that inescapably implies a nontestifying witness's testimonial hearsay statement," even though the in-court witness does not "expressly state" the out-of-court testimonial statement).

Indeed, a rule that made the Clause inapplicable unless the exact oral statement were presented to the trier of fact would make no sense and would render the Clause a virtual nullity: In most situations, the in-court witness is not able to quote an earlier testimonial statement exactly. Moreover, even if she is able to do so, such a rule would provide an easy way to avoid the Clause, simply by having the in-court witness offer a paraphrase or summary of the statement, or for that matter any other testimony from which the substance of the statement might be inferred. In *United States v. Meises*, 645 F.3d 5 (1st Cir. 2011), for example, the prosecutor, recognizing that statements made by a cooperating arrestee to law enforcement agents were testimonial, did not ask a testifying agent what the arrestee said; instead, he secured the agent's testimony that after the interview "the targets of [the] investigation change[d]" and that the accused was taken into federal detention. The Court of Appeals for the First Circuit saw through this blatant ruse:

"It makes no difference that the government

> took care not to introduce [the out-of-court witness's] 'actual statements.' . . . [A]ny other conclusion would permit the government to evade the limitations of the Sixth Amendment . . . by weaving an unavailable declarant's statements into another witness's testimony by implication."

Id. at 12-13.

And plainly out-of-court written statements should receive no different treatment in this respect from oral statements. That is true as a matter of principle: The purpose of the Confrontation Clause is to ensure that witnesses give their testimony in a prescribed manner, in the presence of the accused and subject to cross-examination. If a witness makes a testimonial statement out of court and the substance of that statement is presented to the trier of fact, to prove the truth of the matter asserted and without the accused having had an opportunity for confrontation, the Clause is violated – and it makes no difference whether the witness made the testimonial statement in writing or orally.

Furthermore, a bizarre consequence would follow if written statements, unlike oral ones, could be made categorically exempt from Confrontation Clause scrutiny through the simple expedient of an in-court witness testifying to the substance of the statement. Any witness who made an oral testimonial statement but did not want to confront the accused could repeat the statement in writing. Another witness could then testify at trial to the substance of the written statement, and the Clause would provide no protection

to the accused. Such a rule would, in fact, tend perversely to denigrate the quality of the evidence offered at trial, because prosecutors would have an incentive to present their testimony in summary form.

Accordingly, formal admission of a statement, whether it was made orally or in writing, is not necessary for the statement to fall within the scope of the Confrontation Clause. The Clause is invoked if the substance of the statement is conveyed to the trier of fact – so long, of course, as (a) the statement is testimonial and (b) the basis for communicating that substance to the trier of fact is to prove its truth.[4]

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[4] The substance so communicated may be part of or embedded in a longer statement. If so, it is immaterial how important the portion communicated to the trier of fact is in comparison to the rest of the statement (however such comparative importance might be measured) . If any portion of the longer statement is testimonial, and is conveyed to the trier of fact to prove the truth of that portion, then there is a presumptive Confrontation Clause violation with respect to that portion. *Cf. Williamson v. United States*, 512 U.S. 594 (1994) (holding that "statement" within the meaning of Federal Rule of Evidence 804(b)(3) means "a single declaration or remark" rather than the "extended declaration" of which it may be a part).

In some cases, a difficult question may arise if the prosecution claims some purpose for presenting evidence of the statement other than to prove the truth of an aspect of it. *Cf.* Richard D. Friedman, *When is a statement presented for purposes of the Confrontation Clause*, <http://confrontationright.blogspot.com/2011/06/when-is-statement-presented-for.html>. That issue does not arise in this case; it is clear that the evidence of the Cellmark report would have had no value other than to prove the truth of a matter asserted by the report. *See infra* Part II.

B. The substance of statements that were part of the Cellmark report was communicated to the trier of fact.

Here, it is clear that part of the substance of the Cellmark report was communicated to the trial judge, sitting as trier of fact. Sandra Lambatos, the prosecution's in-court DNA expert, testified at length to establish that vaginal swabs from the victim and a blood standard taken from her were sent to Cellmark for DNA analysis. She was then asked whether "the male DNA profile found in semen from the vaginal swabs of [the victim]" – that is, the male profile reported by Cellmark – was determined by computer to match the DNA profile found in Petitioner's blood. She answered in the affirmative. The prosecutor then asked whether she had compared the two profiles and found a match. She said she had. He asked what the frequency of such a match would be if someone other than Petitioner were the source, and she answered with very low numbers. Finally, the prosecutor asked, "In your expert opinion, can you call this a match to Sandy Williams?" and she responded simply, "Yes." JA 56-58. Her testimony subsequently clarified how Cellmark had determined the male DNA profile in the vaginal swabs: The sample included a mixture of the victim's DNA with that of the perpetrator, JA 68, 71, and by subtracting out the victim's known DNA Cellmark "deduced" a male profile. JA 71, 72, 77.

Thus, Lambatos's testimony was explicitly based in critical part on the Cellmark report.[5] Lambatos's

[5] Accordingly, the Court need not address the issue of whether the Confrontation Clause applies if an expert

testimony conveyed to the trier of fact that Cellmark had made a statement that the vaginal swabs included male DNA of a given profile – a profile that, as indicated by comparisons made both by computer and Lambatos personally, JA 56, was the same as that on the swabs taken from Petitioner.

The Cellmark report may have included machine printouts but, like the reports in *Melendez-Diaz v. Massachusetts*, 129 S.Ct. 2527 (2009), and *Bullcoming v. New Mexico*, 131 S.Ct. 2705 (2011), it was not simply the product of a machine. Rather, it required the exercise of human judgment.[6] Indeed, at

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assembles information from one or more testimonial statements and then draws an inference based at least in part on that information without disclosing what the information is or what its sources are. In the view of *amicus*, even in such a circumstance the Confrontation Clause should not be deemed *per se* inapplicable. It still might be that the trier of fact would likely infer that the expert's opinion was based on a statement to a certain effect. And even if this were not true, concern should be raised by the possibility that the expert's opinion is being used to repackage information contained in an undisclosed testimonial statement. But these issues are not presented by this case.

[6] Note this exchange from cross-examination:

> Q You look at the E2 fraction from the vaginal swabs and compare that to the victim's profile, correct?
>
> A In my opinion that's what [Cellmark] did.
>
> Q And that's how you would do it in your casework, right?
>
> A We have slightly different guidelines so it would be a little bit different.

one of the DNA locuses tested one of the alleles found was inconsistent with the profiles of both the victim and of Petitioner, but Cellmark did not include it in the deduced male donor profile. JA 78, 79. Lambatos, while noting that "[Cellmark]'s interpretation guidelines differ from ours," suggested that this allele was properly treated as "background noise." JA 79.[7]

It does not matter that the trial judge was not presented with details of the male profile that

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> Q Well, the goal here is to try to determine the male donor?
>
> A Correct.
>
> Q And in the E2 fraction or vaginal swab assuming the victim's profile is present and subtract that out?
>
> A In my opinion that's how [Cellmark] approached it, yes.

JA 77.

[7] Even if the male DNA profile of the material from the vaginal swabs were deduced entirely by machine, that fact would not alter the analysis. Taken by themselves, machine printouts are mere pieces of paper useless to the case. They could become significant only if characterized by a human statement that (a) they are the product of the performance of a given test on a DNA sample (not, say, a human creation to resemble an electropherogram), and (b) the sample subjected to this test was the one taken from the particular vaginal swabs involved in the case. *See Bullcoming*, 131 S.Ct. at 2714 (rejecting state court's holding that report by testing analyst was not within Confrontation Clause because he was a "mere scrivener," the "true accuser" being the machine; testing analyst's report certified, among other facts, "that he performed *on Bullcoming's sample* a *particular test*, adhering to a precise protocol") (emphasis added).

Cellmark deduced. The crucial matter is that Lambatos conveyed to the judge that (a) Cellmark reported a DNA profile, and (b) this profile was such that it matched the known profile of Petitioner. The situation is essentially the same as if Lambatos had testified, "Somebody at the scene described the person she saw commit the crime, and the description closely matched Williams." It would be absurd to hold that the Confrontation Clause did not apply because the witness did not furnish details of the description to the trier of fact.

C. The statements in the Cellmark report were testimonial.

There is no doubt, furthermore, that the statements made by the Cellmark report were testimonial in nature. The report was made for the sole purpose of aiding investigation and prosecution of a crime.[8] Though the testimonial quality of the

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[8] Lambatos testified explicitly that "all reports in this case were prepared for this criminal investigation [and] the eventual litigation here." JA 82. The samples tested by the Cellmark lab in Germantown, MD, were sent to it by the Illinois State Police ("ISP") – to expedite testing and reduce the ISP's backlog – by courier "in a sealed condition," and were returned the same way by Cellmark to the ISP. This was the regular practice of the ISP and of Cellmark; in fact, the ISP and Cellmark each sent these samples to the other in the same shipment with numerous samples from other unrelated cases. JA 49-55, 63 (at least 20 other cases batched and sent to Cellmark). Cellmark's corporate parent described the Germantown lab, which it closed in 2005, as a "forensic DNA testing facility." ORCHID CELLMARK INC.,

statement appears indisputable after *Melendez-Diaz* and *Bullcoming*, it is worth emphasizing, for two reasons.

First, other issues raised by this case – involving the extent to which the Confrontation Clause prevents an in-court expert from testifying on the basis of information transmitted in an out-of-court statement – arise *only* if that statement is testimonial in nature. If the statement is not testimonial, then there is simply no Confrontation Clause issue. *Davis, supra*, 547 U.S. at 823-25; *Whorton v. Bockting*, 549 U.S. 406, 420 (2007). Thus – contrary to an assertion by the Illinois Appellate Court, JA 127, and an apparent implication by the Illinois Supreme Court, JA 170 – the position advocated by Petitioner (and by *amicus*) would *not* amount to a broad restriction against an in-court witness relying on information provided out of court; *see, e.g.*, *People v. Hill*, 120 Cal. Rptr.3d 251, 278-79 (Cal. Ct. Apps. 1st Dist. 2011) (concluding that under proper analysis statements introduced in support of expert opinion on gang structure might be considered admitted for their truth, and yet holding that most of the statements were not testimonial and so posed no Confrontation Clause issue); *cf.* Fed. R. Evid. 703 (allowing testifying expert to base an opinion on facts or data not admissible in evidence if they are "of a type reasonably relied upon by experts in the particular field in forming opinions or inferences upon the subject"). For example, a physician gathering medical information to form an opinion in anticipation of testimony for a prosecutor could requisition routine blood tests without raising a Confrontation Clause problem, unless the physician announced gratuitously

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2005 ANNUAL REPORT, at 7.

that she was doing so for prosecutorial purposes. Jennifer L. Mnookin, *Expert Evidence and the Confrontation Clause After Crawford v. Washington*, 15 J.L. & POL. 791, 804-05 (2007) ("When a doctor relies on other medical records made in the course of treatment, or an appraiser relies on comparable prior sales, or an expert in gang structure relies on interviews conducted with former gang members over many years and not related to the particular case, no plausible understanding of 'testimonial' would encompass these statements.").

Second, if, as in this case, a statement on which an expert relies *is* testimonial, then, under the decisions of this Court, that means it was made for the "primary purpose . . . to create a record for trial." *Michigan v. Bryant*, 131 S.Ct. at 1155. And that fact should frame consideration of any further issues in the case. Given that the statement was made for that purpose, a court should guard against allowing the statement to be used to prove a matter that it asserted without the witness who made the statement, or another who is able to testify from personal knowlede to its contents, being subjected to confrontation.

II. THE STATEMENT IN ISSUE WAS COMMUNICATED TO THE TRIAL JUDGE TO PROVE THE TRUTH OF WHAT IT ASSERTED. THAT FACT IS NOT AFFECTED BY THE IN-COURT EXPERT'S USE OF THE STATEMENT AS A PREDICATE FOR HER OPINION.

A. There is no meaningful distinction in this context between presenting a statement to support an expert's opinion and presenting it for the truth of what it asserts.

Amicus has argued thus far that Lambatos's in-court testimony concerning the Cellmark report effectively communicated to the trier of fact a testimonial statement contained in the report. If that communication was made to prove the truth of the matter asserted in the statement, then there was a Confrontation Clause violation, because Petitioner never had an opportunity to cross-examine the author of the report or any other person who had personal knowledge of its contents.

The Illinois Supreme Court held that "the State did not offer Lambatos' testimony regarding the Cellmark report for the truth of the matter asserted." Rather, it said, the State introduced her testimony "for the limited purpose of explaining the basis for her opinion on the critical issue concerning whether there was a DNA match between the defendant's blood sample and the semen sample recovered from [the victim]." JA 172. But this distinction proceeds from a logical error.

The Cellmark report supported Lambatos's

opinion only if it was true; if the eletropherogram was not the product of a properly performed DNA test on the vaginal swabs taken from the victim, then the DNA profile reported by Cellmark had no bearing on the case and could not support Lambatos's opinion that the DNA profile from the swabs matched Petitioner's profile. In this context, therefore, it makes no sense to say that the statement was not presented for its truth because it was used to support the expert's opinion. *See, e.g., People v. Goldstein*, 843 N.E. 727, 732-33 (N.Y. 2005) (holding, in case in which testimonial statements could buttress expert's opinion only if true, that "[t]he distinction between a statement offered for its truth and a statement offered to shed light on an expert's opinion is not meaningful in this context"); *People v. Hill, supra*, 120 Cal. Rptr.3d at 270-74 (reviewing cases and academic literature, and characterizing *Goldstein*'s logic as "compelling").

B. That the expert witness provided "added value" does not alter the analysis.

It is true that in forming her opinion Lambatos – unlike the in-court expert in *Bullcoming* – did more than simply transmit the data reported to her; rather, she used the Cellmark report as one of the bases on which she drew her inference (which squared with an inference drawn by computer) that Petitioner's DNA matched that found on the vaginal swabs. But that does not alter the situation. Put simply, proof of that proposition required three components – factual proof concerning the DNA profile on the vaginal swabs, factual proof concerning Petitioner's DNA profile, and

analysis (whether based on human expertise or electronic computing power) to draw the inference that the two profiles matched to an extent that would be rare if they were not from a common source. The prosecution's obligation to comply with the Confrontation Clause in proving the results of forensic lab tests, the first two components, should not be diminished by the fact that *in addition* to proving those results it had to prove the third component, a relatively complex scientific inference.

Indeed, if bearing an extra burden of proving a scientific inference eased the prosecution's burden of proving underlying data, the prosecution would have a perverse incentive to claim that it needed to prove such an inference. The holdings of *Melendez-Diaz* and *Bullcoming* would, as a practical matter, be essentially nullified in many contexts. A forensic laboratory report – testimonial in nature because made for the purpose of assisting in prosecution – could give data without stating ultimate conclusions, such as the presence of cocaine in a sample. An in-court expert witness could draw the final inference, perhaps one obvious to experts in the field given the data, and explain that she was basing her conclusions on those data, as communicated by the lab report. Neither the author of that report nor anyone else who could testify from personal knowledge to the facts asserted in it would have to testify live, subject to confrontation, because the report would supposedly just be used in support of the in-court expert's opinion. And so, with the cooperation of forensic laboratory technicians, who knew exactly what they were doing, prosecutors could achieve a neat evasion of the confrontation right as it has recently, and clearly, been articulated by this

Court.

But the consequences of a doctrine that presenting a statement in support of an expert's opinion removes the statement from the scope of the Confrontation Clause are not limited to the context of forensic laboratory reports. Such a doctrine would mean that, so far as the Clause is concerned, a state could allow a prosecutor to present an expert on, say, crime reconstruction, who could testify that in her opinion – based on descriptions of the incident she had received, of a type reasonably relied on by experts in the field – the accused had committed the crime. It would not matter that some of the statements on which she based her opinion were testimonial, because that is true in this case as well. Nor would it matter that the expertise is a litigation-focused one, because that also is true in this case as well. A state could, without constraint by the Confrontation Clause, adopt a fundamentally transformed system of criminal justice, one in which the prosecution could decide as to each of its witnesses whether to bring her in live or transmit her testimony through an in-court expert of its choosing.

Amicus believes this is a perfectly realistic scenario. Accident reconstruction expert witnesses are a regular fixture of civil litigation.[9] They appear far

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[9] If there were any doubt about this, it should be resolved by the ease with which a quick internet search turns up numerous websites devoted to helping lawyers find such expert witnesses. *E.g.*, Accident Reconstruction Network, *ARC Network Expert Witness Directory*, <http://www.accidentreconstruction.com/expertsearch.asp>. *See also, e.g., United States v. Griffith*, 762 F.Supp.2d 1179, 1182 (D.Ariz. 2010) (noting that former police officer had

less frequently in criminal prosecutions, but they are not unknown. *See Galiana v. McNeil*, 2010 WL 3219316 (S.D.Fla. 2010) (on habeas); *Warthan v. State*, 927 N.E.2d 425 (table) (Ind. Ct. Apps. 2010). And neither are "crime reconstruction" experts. *E.g.*, *Knight v. Dunbar*, 2010 WL 5313530 (D.Colo. 2010); *People v. Higgins*, 2011 WL 3373648 (Cal. Ct. App. 2d Dist. Aug. 5, 2011); *State v. Eggleston*, 108 Wash.App. 1011, 2001 WL 1077846 (Wash. Ct. Apps. Div. 2 2001) (retired police officer "had testified as a crime-scene reconstruction expert over 200 times"). If this Court countenances expert inference as a method of shoe-horning testimonial statements into evidence, notwithstanding the lack of opportunity for confrontation, it is inevitable that some states will take full advantage of the opportunity. A foretaste is provided by numerous decisions holding that the Confrontation Clause is categorically inapplicable to an opinion offered by a police officer testifying as a gang expert, based in part on statements made to him while investigating the case, that an individual is a member of a gang and committed a crime for gang-related purposes. *E.g.*, *People v. Thomas*, 30 Cal. Rptr. 582 (Cal. Apps. 4th Dist. 2005); *contra*, *United States v. Mejia*, 545 F.3d 179, 199 (2d Cir. 2008) (holding that gang expert's "reliance on and repetition of out-of-court testimonial statements made by individuals during the course of custodial interrogations violated Appellants's rights under the Confrontation Clause").

"testified in federal and state court throughout Arizona and California on . . . accident reconstruction . . .").

C. Federal Rule of Evidence 703 does not alter the analysis.

Amicus recognizes that Federal Rule of Evidence 703, the original version of which Illinois has adopted by judicial decision, *Wilson v. Clark*, 417 N.E.2d 1322 (Ill. 1981),[10] provides that ordinary evidence law does not prevent a witness in Lambatos's position from testifying to an opinion formed on the basis of facts that are not themselves otherwise admissible in evidence. Indeed, in some circumstances, courts applying this Rule have allowed expert witnesses to testify as to those underlying facts and even to the out-of-court statements from which they learned them, *e.g.*, *United States v. Rollins*, 862 F.2d 1282 (7th Cir. 1988) (FBI agent presents who monitored taped conversations between informant and drug dealer, presents his interpretation of the language used, drawing in part on explanation provided to him by informant), and Fed. R. Evid. 703 has been revised to govern this possibility.[11]

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[10] Rule 703 has been amended several times since *Wilson* adopted it. Apparently the adoption is not dynamic. That is, the Illinois law appears to be Rule 703 as it stood in 1981, *see* JA 154-55 (Illinois Supreme Court quoting 1981 version of the Rule).

[11] The last sentence of Rule 703, added in 2000, creates a presumption against allowing the proponent to present in support of the opinion facts that otherwise would be inadmissible. But the presumption may be overcome if the trial court determines that the probative value of the fact in assisting the trier of fact to assess the opinion "substantially outweighs their prejudicial effect." In effect, this sentence simply moves a thumb from its usual position on the side of

But this is irrelevant to the analysis under the Confrontation Clause. The Clause and non-constitutional evidence doctrine are two separate bodies of law; a rule of ordinary evidence law cannot abrogate a constitutional provision according an accused the right to be confronted with the witnesses against him.

The Court has noted that in some contexts "standard rules of hearsay" are "relevant" to the determination of whether a statement is made for the "primary purpose . . . to establish or prove past events potentially relevant to later criminal prosecution." *Bryant, supra*, 131 S.Ct. at 1154-55, *quoting in part Davis*, 547 U.S. at 822. But that has no bearing here; there is no doubt that the purpose of the Cellmark report was to prove facts important to a prosecution.

Nor does this case exemplify the proposition that

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the scale favoring admissibility, *see* Fed. R. Evid. 403, to the other side. The sentence does not distinguish between admissibility of the facts and of the statement by which the expert learned those facts; most often, as in *Rollins*, if the expert testifies to the underlying facts, the testimony will give at least some indication of the statement. The sentence was incorporated into the Rule before *Crawford* and shows no explicit sensitivity to the question of whether the statement from which the expert learned the facts was testimonial in nature; the test set up by the sentence depends instead on the balance of probative value and prejudicial effect. *Amicus* believes, though, that it was probably largely motivated by an implicit sense – still inchoate in that pre-*Crawford* era – that in some situations allowing expert opinion to provide a basis for admitting otherwise inadmissible statements provided a manipulative route around a criminal defendant's central constitutional rights.

some traditional components of hearsay doctrine tend to support a determination as to whether the "primary purpose" of a statement brings it within the scope of the Confrontation Clause. *Bryant*, *supra*, 131 S.Ct. 1143, 1155 (2011). When that is so, it is because some hearsay principles, like confrontation doctrine, sort out statements that are made in anticipation of use in prosecution from those that are not. *See Bullcoming*, 131 S.Ct. at 2720 (Sotomayor, J., concurring) ("The hearsay rule's recognition of the . . . evidentiary purpose [of the certificates in *Melendez-Diaz*] . . . *confirmed our decision* that the certificates were testimonial under the primary purpose analysis required by the Confrontation Clause.")(emphasis added). But that is not the case here, for two reasons.

First, the aspect of Rule 703 allowing an expert to base opinions on facts not otherwise admissible[12] does not reflect traditional law. Rather, it is a creation of the second half of the 20th century, and it reflected a deliberate decision to loosen the law then prevailing.[13]

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[12] As a formal matter, this rule is not a part of the law of hearsay, but it is often treated as in effect an exception to the hearsay rule. *See, e.g.*, DAVID F. BINDER, HEARSAY HANDBOOK (4th ed. 2002), ch. 48.

[13] The Advisory Committee on the Federal Rules of Evidence, in proposing Rule 703, pointed out that under it facts on which an expert based an opinion could be based on three sources. The first, the expert's own first hand observations, was "traditionally allowed." Similarly, the second, presentation of the facts as evidence at trial, "also reflect[ed] existing practice." But the Rule's allowance of the third basis, the one involved here – "presentation of the data outside of court and other than by his own perception" – was "designed to broaden the basis for expert opinions beyond that current in many jurisdictions . . . ." Advisory

Second, this aspect of the Rule has no bearing on principles underlying the Confrontation Clause. It does not attempt to sort out statements made with litigation in mind. Rather, it is based on the perception that if experts in a given field rely, in ordinary practice "when not in court," on sources of information of a given type, even for "life-and-death decisions," then reliance by an expert in court on similar information sources "ought to suffice for judicial purposes." Advisory Committee's Note, 56 F.R.D. 183, 283 (1972). Thus, the Rule was clearly based on an assessment of the reliability of the outside information. And that has nothing to do with the Confrontation Clause. *See Bullcoming*, 131 S.Ct. at 2720 n.1 (Sotomayor, J., concurring) ("The rules of evidence, not the Confrontation Clause, are designed primarily to police reliability; the purpose of the Confrontation Clause is to determine whether statements are testimonial and therefore require confrontation.").

It bears emphasis that a holding for Petitioner would not amount to a holding that Rule 703 is unconstitutional. First, as noted above, *see* note 5 *supra*, this is not a case in which an expert testifies as to an opinion formed on the basis of outside information but without revealing the information or the source of it. In this case, Lambatos's testimony made clear that she was basing her opinion on the profile as reported by Cellmark.

Second, a holding for Petitioner could bear on the operation of Rule 703 only in the relatively narrow circumstance in which a prosecution expert offers

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Committee's Note, 56 F.R.D. 183, 283 (1972).

against an accused an opinion that is based on a *testimonial* statement made by an outside source. Routine reports prepared by technicians without any contemplation of assisting in a prosecution would be unaffected.

* * *

Melendez-Diaz rightly characterized its holding as a "rather straightforward application" of Crawford." 129 S.Ct. at 2533. And yet that holding has been under continuous assault. In *Briscoe v. Virginia*, 130 S.Ct. 1316 (2010), the state argued – the express holding of *Melendez-Diaz* to the contrary notwithstanding – that the burden of calling the person who prepared the lab report as an in-court witness could be imposed on the accused. The Court rejected that attempt. In *Bullcoming*, the state argued that it sufficed to present as an in-court witness an analyst who had neither written the report nor observed performance of the reported test. The Court rejected that attempt as well. The attempt here is subtler, but in a sense it is more dangerous, because if it succeeds states would have a road map not only to avoid the rulings of this Court with respect to forensic lab reports but more broadly to eviscerate the Confrontation Clause.

A state could achieve the narrower goal by asking a lab analyst to write a report that provides data in support of a given inference but that avoids stating the inference. The prosecution could then put on the witness stand any person whom the state court would accept as an expert qualified to give an opinion adopting the inference in question. That expert could explain to the trier of fact how she based her opinion in part on the report of the absent lab analyst, and in part

on her background knowledge and other information of a type on which such experts commonly rely. The Confrontation Clause would become little more than a nuisance in this realm.

And states could achieve the broader goal by characterizing as experts witnesses who would draw inferences about the incidents at issue based wholly or in part on testimonial statements made to them. Not only would the Confrontation Clause be rendered a sham but the whole structure of the common law trial – based on witnesses testifying in person – would be threatened.

Amicus does not mean to be unduly alarmist. Presumably some states would not take advantage of the leeway they would have if this Court once again adopted an ineffectual form of the Confrontation Clause – just as even before *Melendez-Diaz* and *Bullcoming* some states conscientiously adhered to the practice that those decisions now require. But the Court should bear in mind that before *Crawford* adopted a rigorous doctrine of the Confrontation Clause some states routinely admitted, notwithstanding the absence of confrontation, "core testimonial statements that the Confrontation Clause plainly meant to exclude." *Crawford*, 541 U.S. at 63-65. It is not enough to hope that the states will act properly of their own accord; the protection of the rights guaranteed by the Constitution requires the vigilance of this Court.

CONCLUSION

For the foregoing reasons, the judgment of the Illinois Supreme Court should be reversed.

Respectfully submitted,

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AMICUS CURIAE BRIEF

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Petitioner,

v.

ILLINOIS,

Respondent.

On A Writ Of Certiorari To The Illinois Supreme Court

BRIEF OF AMICUS CURIAE THE INNOCENCE NETWORK IN SUPPORT OF PETITIONER

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INTEREST OF AMICUS CURIAE[1]

The Innocence Network (the Network) is an affiliation of organizations dedicated to providing pro bono legal and/or investigative services to prisoners for whom evidence discovered after conviction can provide conclusive proof of innocence. The 66 current member organizations of the Innocence Network represent hundreds of prisoners with innocence claims in all 50 states and the District of Columbia, as well as Canada, New Zealand, the United Kingdom, Ireland, and Australia. *See* Appendix A, Member Organizations.

Over the past two decades, the Network has introduced DNA evidence into courtrooms in its successful exoneration of hundreds of individuals. While DNA evidence has been used to correct wrongs past, the process of collecting physical evidence, extracting DNA, and conducting appropriate testing is not itself without flaws. The exoneration cases include cases in which a defendant was convicted by incomplete, incompetent, or faulty DNA evidence and testimony. These cases have revealed that DNA, like other forensic sciences, is susceptible to human error, incompetence, and misfeasance.

Given this experience, amicus curiae possesses a strong interest in ensuring that criminal convictions

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[1] Letters from the parties consenting to the filing of this brief are on file with the Clerk of the Court. No counsel for a party authored this brief, and no person other than the amicus curiae made any monetary contribution to its preparation or submission.

are premised upon valid and accurate scientific analysis—an interest directly implicated by Petitioner Sandy Williams's case. When the results of a forensic analysis are offered against a defendant—whether through a lab report or proxy analysis of that report—the author of that testimony must be subject to confrontation.

INTRODUCTION AND SUMMARY

The evidentiary power of DNA evidence is unparalleled; in the past two decades, postconviction DNA evidence has been used to exonerate 273 individuals. Innocence Project, *Know the Cases*, http://www.innocenceproject.org/know/; *see also Dist. Attorney's Office for Third Judicial Dist. v. Osborne*, 129 S.Ct. 2308, 2312 (2009) ("DNA testing has an unparalleled ability both to exonerate the wrongly convicted and to identify the guilty."). As DNA testing continues to disprove other types of evidence, including other faulty forensic science, the general view that "DNA evidence does not lie" has become increasingly widespread. *See* William C. Thompson, *Tarnish on the "Gold Standard": Understanding Recent Problems in Forensic DNA Testing*, 30 Champion 10 (2006). Indeed, some courts have gone so far as to find DNA evidence alone is enough to support a conviction. *See, e.g., State v. Toomes*, 191 S.W.3d 122, 131 (Tenn. Crim. App. 2006); *Roberson v. State*, 16 S.W.3d 156, 172 (Tex. App. 2000); *Springfield v. State*, 860 P.2d 435, 449 (Wyo. 1993).

As important and powerful as it is, however, DNA evidence is not infallible. An increasing number of scandals surrounding DNA testing highlight the human element common to all forensic sciences. Review of the DNA exoneration cases reveals at least 15 exonerations where DNA evidence was tested prior to conviction. Greg Hampikian et al., *The Genetics of Innocence: Analysis of 194 U.S. DNA Exonerations*, 12 Annu. Rev. Genomics Hum. Genet. 97, 107 (2011); Brandon L. Garrett and Peter J. Neufeld, *Invalid Forensic Science Testimony and Wrongful Convictions*, 95 Va. L. Rev. 1, 63-66 (2009); Innocence Project, *supra*. In many cases, additional testing revealed that improper testimony regarding the methodology, results, or analysis was introduced at trial. *Id.* In at least one case, the original lab analysis itself was proven to be incorrect. *Id.*

Confrontation of the analyst who performed the DNA extraction and developed the genetic profile of the perpetrator is essential to permit proper adversarial testing of that evidence. This Court's decisions in *Crawford v. Washington*, 541 U.S. 36 (2004), *Melendez-Diaz v. Massachusetts*, 129 S.Ct. 2527 (2009), and *Bullcoming v. New Mexico*, 131 S.Ct. 2705 (2011), make clear that evidence of this sort is inherently testimonial, and hence subject to confrontation. An analyst's report and conclusions are more than just raw data. They certify that the analyst followed certain procedures, performed certain acts, and interpreted the results to arrive at the offered conclusions.

That the analyst's written report in this case was not itself introduced makes no difference: the substance of that testimonial report was still conveyed to the jury for the truth of the matter asserted through the testimony of another witness. The constitutional values at stake are the same whether the jury was shown the actual piece of paper, or told about its contents by a witness who could not be effectively cross-examined about its substance.

Here, the State set out to build a case based on the work of a lab analyst from Cellmark Diagnostics. The analyst received crime scene evidence, extracted biological material and, from a mixture of male and female DNA, developed a male profile. The critical issue at trial was the accuracy of this profile. Yet, the State never presented the Cellmark analyst. The source of this profile and how it was derived was thus never subject to cross-examination.

Instead, the State called an expert who presumed the reliability of the results, proclaimed they matched Petitioner Williams's profile, and provided statistical data of the random-match probability. An expert can certainly derive statistical results from the work of other scientists. Indeed, if the Cellmark analyst had testified, such extrapolation would be proper. But, when the validity of the analyst's underlying work is at issue, confrontation is necessary for the jury to determine the truth. Should the State's position be accepted, the State would be free to prove its case solely through surmise and extrapolations about

unconfronted evidence. That approach was rejected in *Bullcoming*; it must be rejected here.

ARGUMENT

The right of a defendant to confront his accuser lies at the heart of the American criminal justice system. A defendant's Sixth Amendment confrontation rights are invoked when evidence is testimonial, or "made for the purpose of establishing or proving some fact." *Michigan v. Bryant*, 131 S.Ct. 1143, 1153 (2011) (citing *Crawford*, 541 U.S. at 51).

In cases involving accusations via forensic evidence, confrontation requires that the forensic analyst be called to the stand; forensic reports cannot be introduced absent live testimony by the performing analysts. *Melendez-Diaz*, 129 S.Ct. at 2527. Testimony by a surrogate analyst who did not perform or observe the tests does not satisfy the Confrontation Clause. *Bullcoming*, 131 S.Ct. at 2705. It should make no difference whether the written report is itself admitted into evidence, or the *substance* of the report is relayed to the jury through another witness, as here. In either case, a straightforward application of *Crawford*, *Melendez-Diaz*, and *Bullcoming* requires confrontation of the analyst who generated the accusing data.

Here, evidence created by a Cellmark Diagnostics analyst—the DNA profile of the presumed perpetrator—was conveyed to the jury without any

opportunity to cross-examine anyone who knew how that evidence was created. But confrontation was essential if the State intended to rely on the DNA profile developed by that analyst. It is both compelled by the demands of the Confrontation Clause under *Bullcoming* and *Melendez-Diaz*, and essential to effective functioning of the adversary process.

I. Erroneous DNA Analysis Has Resulted in the Wrongful Conviction of the Innocent

Confrontation is essential in preventing the conviction of the innocent. Regardless of its scientific nature, DNA evidence, like all other forensic evidence, is subject to human error, bias, and malfeasance. *See* National Research Council of the National Academies [hereinafter "NRC"], *Strengthening Forensic Science in the United States: A Path Forward*, 132 (National Academies Press 2009), *available at* http://books.nap.edu/catalog.php?record_id=12589. Without confrontation to illuminate such errors, innocent individuals will be, and have been, convicted.

Faulty DNA analysis and reporting have led to a number of wrongful convictions in the past decade. Hampikian, *supra,* at 107; Innocence Project, *DNA Exonerations*, http://www.innocenceproject.org/docs/DNA_Exonerations_Forensic_Science.pdf. In many cases, subsequent DNA testing eventually exposed these errors. These cases demonstrate the limitations of DNA evidence: the accuracy of the test results are largely dependent on the methods used by the analyst. DNA

analysis is a sophisticated process, requiring many steps, and errors can occur during each stage of analysis.

A common error in DNA testing occurs early in the process during the handling and labeling of evidence. In labs across the country, suspects have been falsely accused after DNA samples from the victim and the suspect were accidentally switched, mislabeled, or contaminated. *See, e.g.*, Peter Jamison, *SFPD Crime Lab's DNA Evidence Could Be Tainted By Concealed Mistakes*, SF Weekly, Dec. 15, 2010, *available at* http://www.sfweekly.com/2010-12-15/news/sfpd-s-troubled-crime-lab-more-evidence-of-screwups-and-coverups/ (discussing sample switches and subsequent cover-ups in San Francisco crime lab); Trial Transcript at 66-69 & 222-26, *State v. Dishmon*, No. 99-4530, Jan. 10, 2000, *available at* http://darwin.bio.uci.edu/~mueller/pdf/bca_error.pdf (discussing problems of sample handling and analysis in Minnesota crime lab); Thompson, *supra*, (discussing errors of contamination and samples swaps in Texas, North Carolina, and Virginia). In the Washington State Crime Lab alone, investigation by journalists revealed that forensic analysts had tainted tests with their own DNA in at least eight cases. Ruth Teichroeb, *Rare Look Inside State Crime Labs Reveals Recurring DNA Test Problems*, Seattle Post-Intelligencer Reporter, Jul. 22, 2004.

In 1995, a mishandling error occurred at Cellmark Diagnostics—the same lab that performed the testing at issue here—in the case of John Kocak. In that case, like here, a vaginal swab collected from the

victim's rape kit was sent to Cellmark, which developed a DNA profile. In its report, Cellmark indicated that the DNA profile developed from the swab matched the profile of then-suspect John Kocak. Upon internal review, however, it was discovered that the names on the samples taken from the rape victim and Kocak had inadvertently been switched. Trial Transcript at 2-6, *State v. Kocak*, No. SCD110465 (San Diego Superior Ct. 1995), *available at* http://www.nlada.org/forensics/for_lib/Documents/1037341561.0/JohnIvanKocak.pdf. The result of this simple error was a false-positive DNA match. Cellmark analyst Charlotte Word testified that as a result of this switch, "the conclusions [in the report] would be incorrect" and that she could "make no conclusion regarding the faint bands" that were developed. *Id.* at 4. Here, Williams was entitled to confront the Cellmark analyst who performed the testing in his case about the potential for such mishandling.

Such simple human errors continue to occur. In Las Vegas, for example, mishandling of evidence in 2003 was only recently uncovered, resulting in the exoneration of Dwayne Jackson. In that case, 18-year-old Jackson was convicted of robbery after a seasoned DNA analyst accidentally switched DNA samples and incorrectly identified him as the person who committed the crime. Zahid Arab, *Metro Discovers DNA Error in 2001 Case*, CBS 8News, http://www.8newsnow.com/story/15041661/breaking-news-metro-discovers-dna-error-in-2001-case; *see also* Innocence Project, *Know the Cases: Dwayne Jackson*, http://www.innocenceproject.

org/Content/Dwayne_Jackson.php. The mistake was only uncovered this year when a DNA sample from the actual perpetrator was collected in connection with a different crime. *Id.* By then, Jackson had already completed a four-year prison term. *Id.*

False-positives and the conviction of the innocent also occur because of errors performed during the testing procedures themselves. In 1993 Timothy Durham was convicted of raping an 11-year-old girl and sentenced to 3000 years in prison. Innocence Project, *Know the Cases: Timothy Durham*, http://www.innocenceproject.org/Content/Timothy_Durham.php. At trial, the prosecution presented three pieces of evidence against him: the young victim's eyewitness identification, testimony that Durham's hair was microscopically similar to hair found at the crime scene, and a DNA test that reportedly showed that Durham's genotype matched that of the semen donor collected from the victim. William C. Thompson et al., *How the Probability of a False Positive Affects the Value of DNA Evidence*, 48 J. Forensic Sci. 47, 48 (2003). Durham presented eleven witnesses who placed him in another state at the time of the crime, but the jury rejected his alibi defense.

Subsequent postconviction DNA testing, however, revealed that Durham did not share the DQ-alpha genotype found in the semen, and that he was, in fact, excluded as the source of the DNA. *Id.* The initial false-positive results were attributed to the analyst's failure to completely separate male from female DNA during differential extraction of the semen stain.

Because of this failure, the victim's alleles, when combined with those of the true rapist, produced an apparent genotype that matched Durham's. The laboratory mistook this mixed profile for a single source profile and implicated Durham. *Id.*

Not all mistakes are inadvertent. Analysts, whether out of malice or a mistaken belief that they are helping to catch a criminal, have also falsified their reports, going so far as to provide fraudulent testimony. In 1990, Gilbert Alejandro was convicted of aggravated sexual assault in Ulvade County, Texas. Innocence Project, *Know the Cases: Gilbert Alejandro*, http://www.innocenceproject.org/Content/Gilbert_Alejandro.php. At trial, forensic analyst Fred Zain falsely testified that the profile developed from DNA tests performed on semen samples collected from the crime scene matched Alejandro's profile. *Ex-Bexar Serologist Charged With Lying*, The Dallas Morning News, July 27, 1994. Zain emphasized the strength of his findings, stating, "the banding patterns that were identified from [the semen sample] were identical to the banding patterns of Mr. Alejandro. As I stated in the report, they could only have originated from him." Garrett and Neufeld, *supra*, at 64. Subsequent review, however, revealed that testing was not even completed when Zain issued his report. *Id.* Worse, the final test results, completed after the trial, excluded Alejandro as the source of the semen. *Id.*

Similarly, a forensic report and expert testimony presented against Josiah Sutton included invalid and faulty DNA results that could not be discovered upon simple review of the analyst's report. In 1998, Sutton and an acquaintance were accused of raping a woman in the backseat of her car. Semen was collected from the victim's vaginal swab, as well as from a stain in the back seat. Innocence Project, *Know the Cases: Josiah Sutton*, http://www.innocenceproject.org/Content/Josiah_Sutton.php; Garrett and Neufeld, *supra*, at 64-66. DNA analysis was performed on the evidence, and Sutton was excluded as the source of the stain. That conclusion, however, was not mentioned in the official report or in the analyst's testimony at trial.

Analysis of the vaginal swab in Sutton's case revealed that a mixture of DNA from two male donors was present, though just one male profile was developed. *Id.* Statistical analysis of the profile indicates that it would match between 1-in-8 and 1-in-15 black men in Texas, including Sutton. *Id.* At trial, however, the forensic analyst provided no population statistics, and instead testified that Sutton's profile was an exact match with the vaginal swab profile, stating, "If it came from one person, it should have a same exact DNA pattern. No other two persons will have [the] same DNA except in the case of—of identical twins." Garrett and Neufeld, *supra*, at 65-66. The jury was thus left with the mistaken impression that the DNA evidence uniquely identified Sutton as the rapist—an impression Sutton and any defendant is entitled to confront.

The power and weight of DNA evidence makes it that much more important to confront. Confrontation of the analyst who performed the procedure is required to ensure that the methods were sound, procedures were followed, and the resulting data are reliable.

II. Reliability of DNA Testing Is Not a Given, and Must Be Determined by a Jury After Adversarial Testing, Not By a Forensic Analyst Outside the Courtroom

The use of Sandra Lambatos's surrogate testimony allowed the prosecution to bypass confrontation in a manner wholly inconsistent with our adversarial system. *See Barefoot v. Estelle*, 463 U.S. 880, 899 (1983) (our "adversary system" is designed to permit the factfinder to "uncover, recognize and take due account" of the "shortcomings" of expert evidence); *see also Daubert v. Merrell Dow Pharm., Inc.*, 509 U.S. 579, 596 (1993) (endorsing "[v]igorous cross-examination" as a means of attacking scientific evidence). No one, not even the courts, may supersede the Confrontation Clause based upon their own judgment of reliability. *Crawford*, 541 U.S. at 36 ("The Constitution prescribes a procedure for determining the reliability of testimony in criminal trials, and we, no less than the state courts, lack authority to replace it with one of our own devising.") Yet, the Illinois Supreme Court's determination that Cellmark's report was reliable because Lambatos deemed it reliable did just that—it permitted the testifying

analyst's judgment to supplant adversarial testing of the evidence.

In short, Lambatos usurped the role of factfinder in deciding whether the evidence was trustworthy; upon receiving Cellmark's analysis and basing her opinion upon its unconfronted results, she decided for the jury what evidence was and was not true. When, as here, the underlying analysis is presented as evidence of an essential element of the crime—the identity of the perpetrator—presentation of this evidence effectively "rewards the state with a prima facie presumption that the prosecution has proven the truth of the report." Pamela R. Metzger, *Cheating the Constitution*, 59 Vand. L. Rev. 475, 490 (2006).

A. Confrontation Can Reveal Errors and Limitations in DNA Analysis

Crawford expressly rejects a presumption of reliability as a basis for exempting testimonial hearsay from the adversarial process. *Crawford*, 541 U.S. at 51. Although modern DNA analysis has tremendous capacity to reveal truth and bring perpetrators to justice, its reliability is still subject to the problems of human error and misconduct that beset all forensic sciences. *See* NRC at 185; D.E. Krane et al., *Sequential unmasking: A means of minimizing observer effects in forensic DNA interpretation*, 53 J. Forensic Sci. 1006-07 (2008).

The Illinois courts' supposition that Cellmark's forensic report was purely objective is mistaken.

Forensic reports, including those created after DNA testing, are the product of multi-stage analyses and reflect complicated and subjective interpretations made by the performing analyst. It is thus vital that forensic witnesses' claims be subject to the ordinary Sixth Amendment process of cross-examination.

Recent research confirms that, even in DNA analysis, subjectivity and bias affect the analysis and interpretation of testing. *See* Linda Geddes, *Fallible DNA evidence can mean prison or freedom,* New Scientist (August 11, 2010), *available at* http://www.newscientist.com/article/mg20727733.500-fallible-dna-evidence-can-mean-prison-or-freedom.html?full=true (describing research showing that multiple DNA analysts, when presented with the same evidence, reached conflicting conclusions about whether the suspect matched it or not, especially in mixed-profile cases). Cross-examination of analysts who observed the procedures and thus know how the DNA analysis was performed is essential to both prevent and expose such potential biases. A competent cross-examination would involve questioning the analyst about each step of the process, delving into the potential for error at each step. Without in-court confrontation, there is little assurance that defense counsel will be able to probe any of these matters effectively, if at all.

1. Potential for Error in Step One of Analysis: Extraction

Several different procedures are used to extract DNA from a biological sample, including organic extraction, Chelex extraction, and various solid-phase extraction methods in which DNA is bound to a solid substrate and then washed. John Butler, *Fundamentals of Forensic DNA Typing* 99-106 (Academic Press 2010). Differential extraction is a type of organic extraction that is often used in sexual assault cases, like the present case, to separate sperm cells from the victim's epithelial cells. *Id.* at 105-06.

Differential extraction typically involves several steps that must be followed carefully to isolate the male suspect's DNA for subsequent analysis. *Id.* at 106. First, the analyst must add the appropriate chemical to the sample and warm the mixture to a precise temperature in order to break open the victim's epithelial cells. *Id.* Second, the analyst must spin the mixture in a centrifuge to separate the broken epithelial cells from the unbroken sperm cells. *Id.* Next, the analyst must remove the broken epithelial cells from the mixture. *Id.* Finally, the analyst must add an additional chemical to the sample to break open the sperm cells and release the male DNA. *Id.* Failure to adequately separate the male and female portions results in a mixture of DNA that can produce a mixed profile. *Id.*

During extraction, an analyst must also take great care to avoid contamination. *See Osborne*, 129

S.Ct. at 2327 (Alito, J., concurring) ("modern DNA testing technology is so powerful that it actually increases the risks associated with mishandling evidence."). Sample-to-sample contamination and introduction of extraneous DNA occurs more often during extraction than during any other stage of analysis. Butler, *supra*, at 101. Labs often take great precautions to protect against contamination because contaminated samples can produce misleading profiles. *Id.*; *see* I, *supra*. Because no one who testified at trial knew what precautions Cellmark took, there was no way to cross-examine the State's witnesses or evidence to probe for possible contamination.

Concern about contamination is not just theoretical. This Court, in *House v. Bell*, 547 U.S. 518, 547 (2006), recognized that potential contamination from the manner in which the defendant's blood-stained pants were packaged and shipped might have undermined test results that purported to link the blood stains to the victim. Cross-examination of someone who knows how the evidence was packaged and handled is essential to adversarial testing of the evidence.[2]

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[2] This is not to contend that the State must present the testimony of everyone "whose testimony may be relevant in establishing the chain of custody, authenticity of the sample, or accuracy of the testing device. . . ." *Melendez-Diaz*, 129 S.Ct. at 2532 n.1. *Melendez-Diaz* holds that the Confrontation Clause imposes no such duty. *Id.* But the Confrontation Clause does at least require the State to present the testimony of a witness who knows how the evidence was handled when unpackaged and

(Continued on following page)

2. Potential for Error in Step Two: Quantification and Normalization

Several different procedures are also used to quantify the amount of DNA in a sample. These procedures vary widely. In basic terms, quantification typically involves mixing the sample with a dye or other chemical, followed by observing the sample using a special instrument to measure fluorescence. Butler, *supra*, at 114-21. After the DNA is quantified, the analyst must dilute or concentrate (*i.e., normalize*) the DNA in the sample according to the requirements of the subsequent testing methods. *Id.* at 112.

To produce an accurate profile, the analyst must measure the amount of DNA in the sample accurately and normalize the sample to the proper concentration—an essential step because the analyst must use a specific amount of DNA in the subsequent stages of analysis. *Id.* at 111-12, 121; President's DNA Initiative [hereinafter "DNA Amplification"], *DNA Amplification for Forensic Analysts*, 13, https://amplification.dna.gov/. Too much DNA can result in exaggerated electropherograms[3] that can complicate interpretation.

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tested so that the testing can be assessed through the adversarial process.

[3] Electropherograms are displays of the data produced by the analyst using DNA separation and detection instruments. Butler, *supra*, at 194. The Cellmark report in the present case included at least one electropherogram and an allele chart interpreting that electropherogram. JA 61-62.

Id. Too little DNA can result in loss of data and failure to equally capture the different regions of DNA (*i.e.*, *alleles*) present in the sample, which also produces a misleading DNA profile. *Id.* Some methods, such as UV absorbance and yield gels, tend to produce more false readings than others. *Id.* at 114. Because no one testified at trial who knew what quantification and normalization steps Cellmark took, there was no way to cross-examine the State's witnesses or evidence to probe for errors.

3. Potential for Error in Step Three: Amplification

Modern DNA testing typically incorporates a process called polymerase chain reaction (PCR, or amplification) to produce millions of copies of the alleles that the analyst wishes to study. *Id.* at 125. This process allows analysts to develop DNA profiles from very small or low-quality biological samples. *Id.* An analyst starts a PCR process by adding chemicals called reagents to the sample along with water to achieve proper volume and concentration. *Id.* at 129. Commercial PCR kits with premixed reagents are widely used. *Id.* at 129, 139. The analyst then places the mixture in a thermal cycler that heats and cools the mixture to trigger the reactions that copy the DNA. *Id.* at 131. Often, as in the present case, multiple alleles are amplified simultaneously in a process known as multiplex PCR. *Id.* at 138.

Obtaining a balanced multiplex PCR reaction is challenging. *Id.* at 139. Multiplex kits prescribe certain protocols, but analysts sometimes vary these conditions to optimize the reaction. *Id.* Thermal cycling temperatures in particular are critical and must be precisely set. *Id.* at 131-32; DNA Amplification, *supra*, at 9. The number of cycles run by the analyst is similarly critical—an improper number of cycles can complicate the data. DNA Amplification, *supra* at 14. The analyst must also check the sample for PCR inhibitors such as textile dyes or plant matter that can result in the loss of larger alleles. Butler, *supra*, at 140.

Critically, the analyst must guard against contamination during the PCR process. Because PCR is very sensitive to small amounts of DNA, even minute contamination can skew the results. *Id.* at 141. Pre- and post-PCR sample processing areas and associated equipment should be physically separated. *Id.* Disposable gloves should be worn and changed frequently. *Id.* at 142. Aerosol-resistant pipette tips should be used and replaced with each sample. *Id.* PCR setup space should be irradiated when not in use, and equipment and workspaces should be cleaned with bleach or alcohol solutions between uses. *Id.* Failure to follow these procedures can allow the amplified DNA to contaminate subsequent samples. *Id.* Nonbiological impurities can also contaminate the sample and degrade the DNA. President's DNA Initiative, *Amplified DNA Product Separation for Forensic Analysts*, 19, https://separation.dna.gov/. Because

no one who knew what steps Cellmark took in the PCR amplification process testified at trial, there was no way to cross-examine the State's witnesses or evidence for potential errors or contamination in this very sensitive process.

4. Potential for Error in Step Four: Separation and Detection

The DNA fragments produced by multiplex PCR must be separated from each other and passed through a detector. Butler, *supra*, at 175. Separation is typically achieved through electrophoresis, in which the analyst places the DNA fragments in an electrically charged gel or capillary system. *Id.* at 175-76. The fragments migrate through the system and separate according to size. *Id.* at 177.

After separation, the analyst uses a detector instrument to measure the different fluorescent dyes that attach to each fragment during the PCR process. *Id.* at 186-87. This detection process produces a display that represents the specific alleles in the DNA sample. *Id.* at 194. This display takes the form of peaks on an electropherogram (if a capillary system is used) or dark bands on a gel image. *Id.* Most commercial multiplex PCR kits replicate a standardized set of alleles called short-tandem-repeat (STR) alleles. *Id.* at 205.

Analysts must be extremely careful to avoid cross-sample contamination when loading DNA samples in gels, which often contain wells for multiple

samples. *Id.* at 179. Capillary systems are more automated and less susceptible to contamination. *Id.* at 180. In the present case, Lambatos did not know whether Cellmark used a gel or capillary system. JA 74.

The analyst must also calibrate the detector instrument and associated data collection software so the software correctly associates the dye colors with the matching DNA fragments. Butler, *supra*, at 192. Calibration must be performed regularly because testing conditions can change over time and impact the fluorescence of the dyes. *Id.* at 193. Certain capillary separation systems have integrated detectors that calibrate automatically. *Id.* at 194. In the present case, Lambatos had no knowledge of the Cellmark analyst's calibration procedures. JA 60 ("I did not observe anything."). Because no one who knew what steps Cellmark took in the separation and detection process testified at trial, there was no way to cross-examine the witnesses or evidence for errors in this stage in the process.

5. Potential for Error in Step Five: Data Interpretation

An analyst must translate the data produced during the detection process into descriptive numbers for each allele observed. Butler, *supra*, at 205. The full set of descriptive numbers represents the DNA profile of the sample. *Id.* This process has several steps that differ based on the separation system used.

Id. at 206. To translate peaks on an electropherogram into a DNA profile, for example, the analyst must identify and measure the peaks, distinguish meaningful peaks from artifacts, compare peaks to various thresholds and standards, determine whether the DNA represents a mixture of two or more individuals, assign descriptive numbers to each allele, and confirm the findings. *Id.* at 205-06, 216-17; President's DNA Initiative [hereinafter "STR Data Analysis"], *STR Data Analysis and Interpretation for Forensic Analysts*, 16, https://strdata.dna.gov/. Some of these steps may be performed by computer software, but even these computer determinations can be overruled by the human operator. Butler, *supra*, at 206. While these steps involve application of objective criteria, they ultimately depend on subjective judgments of the analyst, to determine, for example, whether certain peaks are real DNA or background noise or artifacts, and to determine if and when to deviate from prescribed peak thresholds for identifying DNA. *Cf. Melendez-Diaz*, 129 S.Ct. at 2537 ("At least some of that methodology requires the exercise of judgment and presents a risk of error that might be explored on cross-examination.").

An analyst can make several errors that can lead to inaccurate interpretation. Improper calibration in the detection process can cause the analyst to misinterpret a peak as a different allele. Butler, *supra*, at 213-14. The analyst must correctly detect and measure the peaks in the standards, or the alleles in the sample may be sized or identified incorrectly. *Id.* at

214-15. The analyst must verify that the lab temperature is constant during detection, or allele peaks can migrate on the electropherogram and lead to incorrect interpretation. *Id.* at 214-15. The analyst must take special care when interpreting mixtures of two or more individuals, as in the present case, because of the risk of confusion. *Id.* at 216, 325-30; JA 68. Additionally, the analyst must guard against conscious and unconscious biases that may affect his or her interpretation of certain data. *See* Krane *supra*, at 1006-07. Because no one who knew what steps Cellmark took in the PCR amplification process testified at trial, there was no way to cross-examine the State's witnesses or evidence for potential errors or contamination in this very sensitive process.

B. Confrontation is Necessary to Expose Potential Error in Data Generation and Interpretation

Cross-examination of an analyst who played no part in, and did not even observe, the actual extraction of the DNA and development of the profile cannot satisfy the Confrontation Clause. As the preceding discussion reveals, in any DNA case, critical inquiries focus on multiple issues; beyond basic questions of competency and honesty of the analysts, relevant inquiries include laboratory protocols, potential testing errors, and conclusions about the alleles identified—that is, the genetic profile at issue. Only once those steps are all accomplished does an expert compare profiles to conclude whether a

suspect can be excluded or included as the source of genetic material, and if included, provide statistical data on random match probabilities. In this case, only the expert who took the last of these steps—who analyzed the allelic profile produced by a different analyst and who then declared an inclusion and provided random match statistics—was available for cross examination. That left all other critical issues about the testing unexamined. As David Kaye noted in his recent book on DNA evidence:

> The limited nature of the random-match probability means that the statistic does not shed light on every issue that is relevant to deciding whether the samples that are being compared have a common source. Random-match probabilities and frequencies address a single question: How probable is it that two, correctly identified DNA genotypes would be the same if they originated from two unrelated individuals? By definition, they do not consider any uncertainty about the origins of the samples (the chain-of-custody issue), about the relatedness of the individuals who left or contributed the samples (the identical-alleles-by-descent issue), or about the determination of the genotypes themselves (the laboratory-error issue).

David H. Kaye, *The Double Helix and the Law of Evidence* 162-63 (2010). There is no reason in logic or law that the Confrontation Clause might be concerned about *only* the assessment of random match probabilities, and not all other issues relating to the

authenticity, reliability, and probative value of DNA evidence.

The electropherograms and allele chart sent by Cellmark to Lambatos represented testimonial assertions by the Cellmark analyst that the male DNA in the victim's vaginal swab exhibited a certain profile, and that the analyst generated the supporting electropherogram data properly. The electropherogram data generated by the Cellmark analyst were not infallible "raw" data, as suggested by the State, but were the end product of a complex, multistage human endeavor, subject to error at each stage. *See* JA 92-93 (State argued that DNA data were "mechanical results" and "raw data," akin to an X-ray). The data did not generate themselves; they were testimonial statements regarding the identity of the perpetrator made by the Cellmark analyst regarding the identity of the perpetrator. By transmitting these data to Lambatos, along with an interpretation, the analyst made additional, implicit assertions that he or she followed proper protocols to generate accurate data. The testimonial nature of these assertions was further illustrated in subsequent correspondence from Cellmark to the State, in which Cellmark offered documentation of the protocols used to generate the data. *See* Appendix B, July 1, 2002 Cellmark Letter.

Williams was denied any opportunity to confront the Cellmark analyst regarding her testimonial statements. At trial, Lambatos provided absolutely no information to Williams regarding any stage of

DNA analysis employed at Cellmark. JA 59-61. Lambatos was even unsure of the equipment used to process the sample and produce the data. JA 74-76.

Dr. John Butler, a veteran DNA analyst who regularly advises the FBI and U.S. Department of Defense regarding DNA analysis, notes that cross examination "provides the final level of review in order to confirm the DNA testing results." Butler, *supra*, at xvii, 302. Given the opportunity to confront the Cellmark analyst, Williams could have explored the following topics to determine the analyst's competence and objectivity, and in turn, the reliability of the analyst's statement regarding the forensic sample.

1. The analyst's educational and professional history. *See Melendez-Diaz*, 129 S.Ct. at 2537 ("Like expert witnesses generally, an analyst's lack of proper training or deficiency in judgment may be disclosed in cross-examination.").

2. Cellmark's Standard Operating Procedures and the analyst's understanding of them.

3. The manner in which the biological samples were packaged and shipped.

4. The reagents and solutions used in analysis. Many problems in DNA sequencing start with improper reagents and solutions, and this is the initial focus of most troubleshooting in DNA labs. Michele Godlevski & Thalia Taylor, *Good Laboratory Practices, Good Manufacturing Procedures, and Quality*

Assurance in the DNA Sequencing Laboratory, in DNA Sequencing: Optimizing the Process and Analysis 157, 168-69 (Jan Kieleczawa ed., 2005).

5. The lab's protocols for glove changing, pipette tip changing, and workstation cleaning to guard against contamination.

6. Concentration of the sample determined during quantification, which can affect data output.

7. The temperature settings of the thermal cycler used in PCR, which must be set precisely to ensure consistent results.

8. The analyst's search for PCR inhibitors in the sample, which can cause loss of larger alleles.

9. Whether the analyst used a gel-based separator, and if so, what precautions were used to guard against contamination during sample loading.

10. Methods used to calibrate the detector instrument, which is necessary for accurate data output.

11. The analyst's determination of and judgment to not report artifact spikes in the data, which might actually be evidence of additional contributors. Butler, *supra*, at 217; STR Data Analysis, *supra*, at 17-20.

12. The analyst's characterization of peaks found in "stutter" positions on the electropherogram, which might not be true alleles. *Id.*

13. The analyst's lab notes, including any information unrecorded in the final results, and any indications that something unexpected occurred during analysis, such as potential contamination. *See* Godlevski, *supra*.

14. Any information known to the analyst or the lab that might have affected its ability to remain objective. In particular, Williams might have asked whether the analyst had knowledge that the State had, less than a year prior to Williams's trial, cancelled a DNA-testing contract with one of Cellmark's competitors, Bode Technology, because Bode had repeatedly failed to find semen on forensic samples. *See* Gretchen Ruethling, *Illinois State Police Cancels Forensic Lab's Contract, Citing Errors*, N.Y. Times, Aug. 20, 2005, *available at* http://query.nytimes.com/gst/fullpage.html?res=9D05E0DB103EF933A1575BC0A9639C8B63.

Williams had a right to confront the analyst herself—or someone who knew about these matters—to determine how these matters might have affected the analyst's statement regarding the DNA profile on the vaginal swab. Confrontation of Lambatos allowed no investigation of these issues whatsoever. There is no reason to deviate from the mandates of the Confrontation Clause, as defined in *Melendez-Diaz* and *Bullcoming*.

C. Confrontation Ensures More Complete Forensic Reports

Under the Illinois Supreme Court's holding, the declarant of an out-of-court statement created in support of the prosecution does not have the same incentives provided by confrontation to cautiously and conscientiously draft her report to avoid the possibility of later impeachment. Rather, with statements submitted solely in writing, information can easily be spun, misrepresented, omitted or fabricated precisely because no follow-up questioning or testing is afforded. This Court has previously recognized that forensic reports generally do not capture the full spectrum of tasks an analyst performs. *Melendez-Diaz*, 129 S.Ct. at 2536-37. Scientists and scholars alike have also noted the subjective nature of forensic reporting and the need for rigorous cross-examination to expose errors or omissions that may not be reflected in the report. *See* NRC at 186; Joel D. Lieberman, *Gold Versus Platinum: Do Jurors Recognize the Superiority and Limitations of DNA Evidence Compared to Other Types of Forensic Evidence?* 14 Psych. Pub. Pol. and L. 27, 50 (2008); *see also* Jessica Gabel, *Forensiphilia: Is Public Fascination with Forensic Science a Love Affair or Fatal Attraction?*, 36 N.E. J. Crim. & Civ. Con. 233, 239 (2010).

The case of veteran Washington state DNA analyst John Brown is illustrative. In 1997, Brown conducted a DNA test on vaginal swabs collected in an unsolved rape case. Ruth Teichroeb, *Oversight of Crime-Lab Staff Has Often Been Lax*, Seattle

Post-Intelligencer, at A1, July 23, 2004, *available at* http://www.seattlepi.com/local/article/Oversight-of-crime-lab-staff-has-often-been-lax-1149961.php. Although Brown developed a DNA profile of a possible male suspect, he was unable to find a match in the convicted-felon DNA databank. Upon review, his supervisor noticed that Brown had missed one of the markers in the DNA test. Brown reran the correct profile and produced a match with defendant Craig Barfield. In issuing his final report linking Barfield to the DNA profile, however, Brown made no mention of his first test and falsely claimed that he had never performed it. Only after extensive cross-examination did the truth come out. *Id.*

D. Confrontation Requires Only That Someone with Personal Knowledge Be Available

Although it is preferable that the performing analyst be called to testify, he is not the only one who could fulfill the confrontation requirement. Any qualified expert witness who observed the testing procedures, can testify as to the results. Thus, the prosecution's case need not hinge on the availability of a sole analyst. A supervisor who monitored the testing as it was performed or a reviewing analyst who observed a videotape of the procedures would equally satisfy a defendant's right to confrontation. This form of evidence satisfies the defendant's right to an "adequate" and "prior opportunity for cross-examination." *Crawford*, 541 U.S. at 54, 57. Anyone

with substantive knowledge of the testing actually conducted in this case—that is, anyone who can be meaningfully cross-examined about the testing that produced the profile that Lambatos analyzed —would suffice. *See id.* Moreover, this procedure could minimize the expense and inconvenience to the government of producing forensic experts for cross-examination on the day of trial, and could significantly reduce the disruption of laboratory analysts' work schedules. Here, the problem is that no one who could speak to what actually happened during the testing of the vaginal swab was made available for cross-examination.

III. Forensic Analysis is Testimonial and Subject to Confrontation

Permitting Lambatos to introduce the substance of the Cellmark analyst's conclusions, without making the Cellmark analyst available for cross-examination, provides insufficient safeguards against DNA testing errors. More fundamentally, such a procedure is constitutionally impermissible, because the Cellmark analyst's evidence is testimonial, and hence subject to the Confrontation Clause.

A. Cellmark's DNA Analysis Was Created Solely for Testimonial Purposes

The Cellmark analyst's electropherograms and allele chart were themselves testimonial as they were made to establish a fact at trial—namely, the

identifying profile and the identity of the perpetrator. Such evidence is testimonial because it acts as a witness and bears testimony against the accused. *See Crawford*, 541 U.S. at 51. Thus, in developing a DNA profile from crime scene evidence, a forensic analyst serves as a witness to the crime, providing a description of the perpetrator that only an expert who observed the testing process is capable of articulating. It makes no difference that the description of the perpetrator is provided in terms of an electropherogram or allele chart: confrontation is still required of the individual offering a description of the perpetrator used at trial.

The courts have upheld the importance of the Confrontation Clause in cases where identity is at issue. *See, e.g.*, *United States v. Hinton*, 423 F.3d 355, 361 (3d Cir. 2005) (witness's out-of-court statement identifying defendant to police officers was testimonial and requires confrontation); *United States v. Pugh*, 405 F.3d 390, 399 (6th Cir. 2005) (witness's positive identification of defendant was "testimonial" because was given during police interrogation, was made to government officer, and because "any reasonable person would assume that a statement that positively identified possible suspects . . . would be used against those suspects in either investigating or prosecuting the offense.") In cases involving eyewitness identifications, the State is not permitted to introduce a witness's description of the perpetrator without giving the defendant an opportunity to confront the witness who provided it. So fundamental is the right

to confrontation that even victims themselves are not protected from the crucible of cross-examination. *See e.g., Giles v. California*, 554 U.S. 353 (2008) (judge's assessment that defendant caused death of witness did not dispense with confrontation requirements); *Maryland v. Craig*, 497 U.S. 836 (1990) (confrontation of child-victim required, but permissible via live video-feed). Forensic analysts deserve no greater protection.

Yet, protection from confrontation is precisely what the State seeks when it claims that it was Lambatos, and not Cellmark, who identified Williams as the perpetrator. It was Cellmark that provided the description with which Lambatos made an identification. Thus, it is Cellmark, as well as Lambatos, that Williams was entitled to confront. Cellmark's development of the DNA profile from the vaginal swab is in effect no different than a witness to a crime telling the police during interrogation that the perpetrator was 6'2", 180 pounds, with dark hair and a unique tattoo across his forehead; the prosecution would be unable to introduce that description without calling the actual witness to the stand. And it certainly could not evade Confrontation by presenting *only* the testimony of a police officer that the defendant fit the description of the perpetrator perfectly, right down to the matching height, weight, hair, and facial tattoo. Lambatos's comparison of the Cellmark profile to Williams's profile does not render confrontation of the Cellmark analyst moot. Lambatos's comparison

meant nothing without Cellmark's description of the male DNA in the sample.

The fact that Cellmark's report itself was not introduced at trial makes no difference as to Williams's right to confront the analyst. In calling Lambatos to testify, the prosecution introduced three pieces of evidence: 1) the profile developed by Cellmark from the victim's vaginal swabs; 2) Sandy Williams's profile as developed by a third analyst, Karen Kooi; and 3) Lambatos's opinion that the two profiles matched. All three pieces of evidence, including Cellmark's analysis, were introduced to prove the identity of the perpetrator. Indeed, Lambatos could not have rendered her opinion without the original findings created by Cellmark, and a jury could not have viewed Lambatos's opinion as relevant unless it accepted Cellmark's findings as accurate. As such, confrontation was required as to all three. Notably, while the State argues that confrontation was not required for the profiles underlying Lambatos's opinion, the State did call the analyst who developed Williams's profile, to testify as to the methods and procedures she followed. JA 12-14.

B. *Melendez-Diaz* and *Bullcoming* Require Confrontation of the Cellmark Analyst

The State's position—that expert reports created in preparation for trial and relied upon by a non-observing expert are admissible without confrontation—threatens the very foundation of the adversary

system and denies a defendant his constitutional rights. Affirming this practice would permit the prosecution to bootstrap a finding of guilt by both admitting unconfronted testimonial evidence, and then bolstering the underlying findings with the testimony of its own expert, who took no part in the analysis, did not observe the analysis, and had no personal knowledge of the procedures used during testing. Admission of such testimony would directly contradict this Court's holdings in *Melendez-Diaz* and *Bullcoming*.

This Court has clearly established that forensic analysis is testimonial and subject to confrontation. In *Bullcoming*, the State sought to introduce the signed and certified report of forensic analyst Chris Caylor through the surrogate testimony of Gerasimos Razatos. Caylor, a state toxicologist, performed a blood-alcohol analysis using a gas chromatograph machine on a blood sample taken from the defendant. Caylor was subsequently placed on unpaid leave, and the State sought to introduce his report at trial through the testimony of Razatos, who stated that he was familiar with the type of procedure used. Despite the State's assertion that Caylor was a "mere scrivener" of the results produced by the gas chromatograph, this Court found that, although the "[g]as chromatography is a widely used scientific method," it was not inherently reliable, is testimonial, and thus subject to confrontation. *Bullcoming*, 131 S.Ct. at 2711 n.1.

Here, like the gas chromatograph testing performed by Caylor in *Bullcoming*, the DNA analysis performed by Cellmark in this case was done at the behest of law enforcement. JA 51-52; *Bullcoming*, 131 S.Ct. at 2717 ("Here as in *Melendez-Diaz*, a law-enforcement officer provided seized evidence to a state laboratory required by law to assist in police investigations."). Similarly, the analysis performed by Caylor "required specialized training" and the use of specialized machinery, much like the DNA analysis performed at Cellmark here. *Bullcoming*, 131 S.Ct. at 2711. Operation of both the gas chromatograph and the complex apparatus used in DNA testing involve several steps, and as this Court noted, "human error can occur at each step." *Id.* Finally, just like in *Bullcoming*, the State here "did not call as a witness the analyst who signed the certification" (in this case, the report submitted to Lambatos). *Id.* The surrogate witnesses in both cases had "neither participated nor observed" the procedures about which they were testifying. *Id.*; JA 60.

The only difference between the facts here and those presented in *Bullcoming* is the formal admission of a piece of paper—the State here did not move to admit the certification created by the original analysis, but fully introduced the accusatory substance of that paper. This failure, however, only exacerbates the constitutional errors in this case; it makes the analyst's key work product even less available for examination and scrutiny by the factfinders and the adversarial testing process. In purposefully failing to

admit the report provided by Cellmark and relied upon by Lambatos, the State attempted to sidestep Williams's constitutional right to confrontation and impermissibly bolster its evidence. Such actions undermine the criminal justice system and cast doubts on the reliability of the evidence.

The State argues that the profile developed by Cellmark and the contents of its report are reliable because Cellmark is an "accredited" lab that presumably follows appropriate procedures. *See* JA 59-60. This, too, was addressed and dismissed in *Bullcoming*. This Court found that Caylor's signed statements indicating that he had "followed the procedures set out on the reverse of th[e] report" was not enough to establish reliability and dispense with confrontation. *Bullcoming*, 131 S.Ct. at 2710. Similarly, the determination by a "certified reviewer" that Caylor "was qualified to conduct the BAC test" and that the "established procedure for handling and analyzing" had been followed did not satisfy confrontation. Thus, while Lambatos may have believed the report was reliable, that does not render it so, nor does it obviate the requirements of confrontation. As surrogate witness Razatos himself acknowledged in *Bullcoming*, "you don't know unless you actually observe the analysis that someone else conducts, whether they followed th[e] protocol in every instance." 131 S.Ct. at 2716 n.3.

In her concurring opinion in *Bullcoming*, Justice Sotomayor offered several hypothetical situations that the *Bullcoming* decision did not resolve. None of

those situations need be resolved here either, for none of them would exempt the evidence in this case from Confrontation Clause requirements. Justice Sotomayor first noted that *Bullcoming* did not decide whether an alternate purpose for a forensic science report—such as to provide Bullcoming with medical treatment—might exempt the report at issue from confrontation requirements. *Id.* at 2722 (Sotomayor, J., concurring). Obviously, the DNA profile report here is similarly not offered for any other purpose than to provide incriminating evidence against Williams.

Second, this is not a case in which confrontation requirements might be satisfied because the person testifying had "observed an analyst conducting a test" and therefore could be cross-examined about the testing. *Id.* As in *Bullcoming*, the witness here (Lambatos) did not observe the testing and "conceded on cross-examination that [s]he played no role in producing the [lab] report and did not observe any portion of [the analyst's] conduct of the testing." *Id.*; JA 60.

Third, Justice Sotomayor noted that *Bullcoming* did not decide whether an expert witness could offer "his independent opinion about underlying testimonial reports that were not themselves admitted into evidence." *Bullcoming*, 131 S.Ct. at 2722. Although the Court did not decide whether there is such an exception, if it does exist, any such exception would necessarily have to be narrower than required to permit the un-examined evidence in this case. Here, unlike in Justice Sotomayor's hypothetical, Lambatos

was not merely asked to offer an independent opinion about the DNA profile of the perpetrator extracted from the crime scene evidence, but, *assuming the profile to be accurate,* to opine about whether it matched Petitioner's, and to ascribe statistical power to that match. *See id.* (State did "not assert that [the witness] offered an independent, expert opinion about Bullcoming's blood alcohol concentration"—the precise matter determined by the non-testifying analyst).

Such an assumption verges on tautological, where the profile's accuracy is measured only by its match to Williams. The question the jury must decide, however, involves assessing whether the proper (and very human) procedures in extracting the DNA, separating it, and generating a profile were properly done in this specific instance and in a manner that could produce reliable results. To this Lambatos could offer nothing. Here, unlike in Justice Sotomayor's hypothetical, Lambatos's opinion simply was not about the profile itself or the accuracy of the testing procedures. To assume reliability of that separate, but essential, component of the State's proof in this case would be to create the exception that swallows the rule of confrontation.

The Illinois Supreme Court's decision was grounded on an Illinois rule of evidence that allows an expert witness to rely on and disclose otherwise inadmissible evidence so long as the evidence is "of a type reasonably relied upon by experts in the particular field." *Wilson v. Clark*, 417 N.E.2d 1322, 1326-27 (Ill. 1981) (adopting Fed. R. Evid. 703); JA 172.2. The

rationale behind this rule is that if the information is of a type experts rely upon in their everyday professional capacity, it is sufficiently reliable for use at trial. *Wilson*, 417 N.E.2d at 1326. The nature of the evidence here, however, was quite different than a surgeon relying on triage information to act. The forensic evidence was sent to Cellmark to build a criminal case; the State's trial expert "relied" on this evidence to buttress the State's theory of guilt. In short, it is wholly testimonial, produced for litigation, and precisely the sort of evidence that the Confrontation Clause protects against.

Finally, Justice Sotomayor noted that *Bullcoming* was "not a case in which the State introduced only machine-generated results, such as a printout from a gas chromatograph." 131 S.Ct. at 2722. Neither is this such a case. Here, the Cellmark analyst went through an extensive process to extract, quantify, amplify, separate and detect the DNA in the sample *before* using a machine to generate the electropherogram data that he or she sent to Lambatos. Data generation is not an early stage of DNA analysis, it is one of the final stages. Moreover, data is the product of the analyst, not a machine. *See* II.A., *supra*. When Cellmark sent the electropherograms to Lambatos, Cellmark made implicit assertions that it followed proper protocols and competently performed the steps that preceded data generation. The electropherograms themselves were Cellmark's explicit testimonial statements regarding the identity of the

perpetrator. Confrontation concerns are fully applicable here.

CONCLUSION

The rights of a citizen cannot be waived by an expert. This Court should reaffirm its conclusion in *Melendez-Diaz* and *Bullcoming* that forensic reports are testimonial and require the analyst be present for cross-examination to introduce his results. *Crawford* held that "[a]dmitting statements deemed reliable by a judge is fundamentally at odds with the right of confrontation." 541 U.S. at 61. Admitting statements deemed reliable by a non-observing forensic analyst is equally at odds with the right of confrontation. The judgment of the Illinois Supreme Court should be reversed.

Respectfully submitted,

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September 7, 2011

APPENDIX A

The Innocence Network member organizations include the Alaska Innocence Project, Association in Defence of the Wrongly Convicted, California Innocence Project, Center on Wrongful Convictions, Committee for Public Counsel Services Innocence Program, Connecticut Innocence Project, Delaware Office of the Public Defender, Downstate Illinois Innocence Project, Duke Center for Criminal Justice and Professional Responsibility, Exoneration Initiative, Georgia Innocence Project, Griffith University Innocence Project, Hawaii Innocence Project, Idaho Innocence Project, Indiana University School of Law Wrongful Conviction Clinic, Innocence Institute of Point Park University, Innocence Network UK, Innocence Project, Innocence Project Arkansas, Innocence Project at UVA School of Law, Innocence Project New Orleans, Innocence Project New Zealand, Innocence Project Northwest Clinic, Innocence Project of Florida, Innocence Project of Iowa, Innocence Project of Minnesota, Innocence Project of South Dakota, Innocence Project of Texas, Irish Innocence Project at Griffith College, Justice Brandeis Innocence Project, Justice Project, Inc., Kentucky Innocence Project, Life After Innocence Project, Maryland Innocence Project, Medill Innocence Project, Michigan Innocence Clinic, Mid-Atlantic Innocence Project, Midwestern Innocence Project, Mississippi Innocence Project, Montana Innocence Project, Nebraska Innocence Project, New England Innocence Project, North Carolina Center on Actual Innocence, Northern

Arizona Justice Project, Northern California Innocence Project, Ohio Innocence Project, Office of the Ohio Public Defender Wrongful Conviction Project, Osgoode Hall Innocence Project, Pace Post-Conviction Project, Palmetto Innocence Project, Pennsylvania Innocence Project, Reinvestigation Project, Rocky Mountain Innocence Center, Sellenger Centre Criminal Justice Review Project, Texas Center for Actual Innocence, Texas Innocence Network, Thomas M. Cooley Law School Innocence Project, Thurgood Marshall School of Law Innocence Project, University of British Columbia Law Innocence Project, University of Leeds Innocence Project, Wake Forest University Law School Innocence and Justice Clinic, Wesleyan Innocence Project, and the Wisconsin Innocence Project.

APPENDIX B

[LOGO] Orchid Cellmark
20271 Goldenrod Lane • Germantown, Maryland 20876
Telephone: (301) 428-4980 (800) USA-LABS
Administration Fax: (301) 428-4877
Laboratory Fax: (301) 428-7946
www.orchidcellmark.com

July 1, 2002

Angela Petrone, Esq.
Assistant State's Attorney
State's Attorney for Cook County
2650 South California Avenue, Room 11D10
Chicago, IL 60608

Re: Cellmark Case No. ILFF01-3359

Dear Ms. Petrone:

Pursuant to your request for discovery of certain documents pertaining to the above-referenced, case, please find enclosed the following materials and/or responses.

The Illinois Supreme Court Rule 417 represents "a minimum standard for compliance concerning DNA evidence" and specifies that the "proponent of the DNA evidence, whether prosecution or defense, shall provide or otherwise make available to the adverse party all relevant materials," including the following items, denoted by the Rule 417 paragraph numbers.

Item i. Case File

CMD 1A: A copy of the case folder contents in the above-referenced case is provided at no charge. Copies of the edited STR electropherograms that Orchid Cellmark has generated and used for analysis are included in the case folder, as well as the final report, inventory and case summary, chain of custody documentation (evidence receipt form or shipping manifest), and case submission form.

CMD 1B: A copy of a slot blot is provided at no charge.

CMD 1C: A copy of documentation regarding batch amplification, gel loading, and 377 and/or 310 run information, including controls and ladders, is provided at no charge.

Item ii. Films, Strips, Photographs, Electropherograms, Tabular Data, Electronic Files, and Other Data

Note 1: All of these items except the electronic files can be found in CMD 1A-C described above.

CMD 2: Individual GeneScan sample files including allelic ladders, reagent blanks, positive, and negative controls are provided on a CD-ROM at a cost of $250. The Genotyper templates, which include the Forensic macros used at Orchid Cellmark, are also included. Copies of Genotyper printouts for samples and positive controls can be found in the case folder. Analysis

parameters are included with each sample file. Data for sizing ladders are included in the individual sample files.

Item iii. Compliance Records Related to quality Control Guidelines or Standards

Note 2: Documentation regarding quality control pertaining to the above-referenced case is included in the copy of the case folder. Additional documentation regarding quality control procedures is located in the Standard Operating Procedures Manual (see CMD 3 described below).

Note 3: If additional quality control records are required, the items requested will need to be clearly specified, and can be provided at a cost of $0.50 per photocopy and $200 per hour for time to assemble the materials.

Item iv. Manuals, Protocols, Guidelines, and Validation Studies

CMD 3: A copy of the 2001 PCR Standard Operating Procedures Manual in use at the time of analysis in the above-referenced case is provided as part of our Supplemental Discovery Package at a cost of $200.

CMD 4: Copies of all current certificates of accreditation, licensures, and permits for Orchid Cellmark consist of 12 pages and are provided at no cost as part of the Supplemental Discovery Package (see CMD 3 above).

CMD 5: A copy of the Quality Assurance Manual consists of 39 pages and is provided for $19.50 (at a cost of $0.50 per page).

Note 4: The DNA profiles generated for the case referenced above were done in compliance with "Quality Assurance Standards for Forensic DNA Testing Laboratories," prepared by the DNA Advisory Board for the Federal Bureau of Investigation (FBI). A copy of this document can be found at the following web site: http://www.fbi.ov/hq/lab/fsc/backissu/july2000/codis2a.htm

Note 5: Internal documentation regarding Fluorescent STR (COfiler/Profiler) validation studies consists of 1200 pages and can be provided for $600 (at a cost of $0.50 per page).

Note 6: Refer to the scientific literature and proceedings from scientific meetings for information regarding STR testing systems.

Note 7: For information about developmental validation, refer to Section 9, "Results and Interpretation," and Section 12, "TWGDAM Validation," in *AmpFlSTR Profiler Plus PCR Amplification Kit: User's Manual*, Applied Biosystems, Perkin-Elmer Corporation, 1998. Also refer to Section 2, "Results and Interpretation," and Section 3, "TWGDAM Validation," in *AmpFlSTR COfiler PCR Amplification Kit: User Bulletin*, Applied Biosystems, Perkin-Elmer Corporation, 1998.

Note 8: Additional information can be obtained at the following STR web site: http://www.cstl.nist.gov/biotech/strbase/str_ref.htm.

Item v. Proficiency Testing and Curricula Vitae

CMD 6: A memorandum from Mahindra Nath Varma to Mark Stolorow, Robin W. Cotton, Ph.D., Jennifer Reynolds, Ph.D., and Charlotte Word, Ph.D., dated August 13, 2001, entitled "Laboratory RFLP and PCR Proficiency Test Summaries (1988 through 2000)" consists of 12 pages and is provided for $6 (at a cost of $0.50 per page).

Note 9: Copies of the proficiency test results for the Orchid Cellmark scientists directly involved in the analysis and interpretation of the above-referenced case can be provided at a cost of $0.50 per page. It will take approximately ½ hour to assemble these documents at $200 per hour.

Note 10: Copies of the proficiency test case files for the Orchid Cellmark scientists directly involved in the analysis and interpretation of the above-referenced case can be provided for fees of $0.50 per page for photocopies, $50 per film copies, and $10 per Polaroid print copy (8 X 10). Time expended for discovery is billed at $200 per hour.

Note 11: Upon request, an estimate of the amount of material and time involved to fulfill the above request will be provided.

Note 12: Documentation regarding proficiency testing can be made available for review at Orchid Cellmark at a time mutually agreeable to defense experts and Orchid Cellmark scientists for a fee of $200 per hour, payable in advance.

CMD 7: Curricula vitae for the scientists responsible for the above-referenced case, Dr. Robin W. Cotton and Dr. Jennifer E. Reynolds; are provided at no charge as part of the Supplemental Discovery Package (see CMD 3 above).

Note 13: Information on continuing education activities can be found in the curricula vitae.

CMD 8: Job descriptions for Dr. Robin W. Cotton (Director, Technical Forensic Sciences) and Dr. Jennifer E. Reynolds (Senior Manager, Forensics and Laboratory Director) comprise 4 pages combined and are provided for $2 (at a cost of $0.50 per page).

Item vi. Discrepancies, Defects, or Errors in the Testing

Note 14: Please refer to the contents of CMD 1A-C described above.

Item vii. Chain of Custody

Note 15: Please refer to the case folder contents described in CMD 1A above.

Item viii. Method of Calculation of Statistical Probabilities

Note 16: For information on the calculation of statistical probabilities, please refer to P097, "Using DNA-VIEW to Calculate Profile Frequencies For Profiler Plus & COfiler," and P112, "Using DNA-VIEW to Calculate Mixture Statistics For Profiler Plus & COfiler Data," in the PCR Standard Operating Procedures Manual described above (see CMD 3).

Item ix. Databases

CMD 9: The PCR databases utilized by Orchid Cellmark for this case are described in the enclosed article, "Population Data on the Thirteen CODIS Core Short Tandem Repeat Loci in African Americans, U.S. Caucasians, Hispanics, Bahamians, Jamaicans, and Trinidadians," Bruce Budowle et al, *Journal of Forensic Sciences 1999*, 44(6):1277-1286. This article is provided at no charge as part of our Supplemental Discovery Package (see CMD 3 above).

Item x. Software Programs

Note 17: The commercial software used is from the Perkin-Elmer Corporation and is as follows: ABI PRISM 310 Collection, GeneScan® 3.1, and Genotyper® 2.1 or 2.5. The frequency calculation software is DNA-VIEW, by Charles H. Brenner.

Item xi. Laboratory Audits

Note 18: Copies of summaries of internal and external audits conducted in 1998 and later years consist of 236 pages and can be provided for $118 (at a cost of $0.50 per page). The six internal and 10 external audit documents may also be ordered individually (at a cost of $0.50 per page) and are as follows:

Internal Audits

1. A memorandum dated September 6, 2001, from Mahindra Nath Varma, RE: *August Laboratory Inspection* (2 pages).

2. A memorandum dated February 26, 2001, from Linda Danielsen and Mahindra Nath Varma, RE: *QC Monitoring* (12 pages).

3. A memorandum dated November 28, 2000, from Linda Danielsen, RE: *QC Monitoring* (11 pages).

4. A memorandum dated January 19, 2000, from Linda Danielsen, RE: *QC Monitoring* (11 pages).

5. A memorandum dated June 8, 1998, from Linda Danielsen, RE: *Follow up to Lab Audit memorandum, dated April 7, 1998* (13 pages).

6. A memorandum dated April 7, 1998, from Linda Danielsen, RE: *Lab Audit* (5 pages).

External Audits

1. A letter dated January 28, 2002 from Dr. Robin W. Cotton to Clement G. Smetana conveying Orchid Cellmark's response to the November 2001 DAB audit (8 pages).

2. A letter dated January 2, 2002, from Clement G. Smetana, Chief, Serology/DNA Division, U.S. Army Criminal Investigation Laboratory, describing the results of a DAB audit conducted at Orchid Cellmark in November 2001, and a copy of the audit report (53 pages).

3. A letter dated May 30, 2001, from Michael J. Wajda, Esq., Office of Health Care Quality, Maryland Department of Health and Mental Hygiene, discussing a survey of Orchid Cellmark required for the CLIA Laboratory Certificate of Compliance, and a copy of the CLIA certificate (3 pages).

4. The ASCLD/LAB Annual Accreditation Review Report dated May 7, 2001, based on Orchid Cellmark's self-evaluation and prepared by Dr. Robin W. Cotton, and an accompanying letter dated May 7, 2001, from Dr. Cotton to Ralph Keaton, Executive Director, ASCLD/LAB, with additional information and attachments (15 pages).

5. A letter dated December 22, 2000, from Teresa M. Long, Forensic Chemist Manager/Biology Section, Maryland State Police Crime Laboratory, describing the findings of a DAB audit conducted at Orchid Cellmark in December

2000, and transmitting a copy of the audit report (49 pages).

6. A letter dated July 24, 2000, from Anthony Longhetti, Chair, ASCLD/LAB, describing the 5-year accreditation of Orchid Cellmark as the result of inspections which occurred in April 2000 (2 pages).

7. A letter dated May 6, 2000, from Anthony Longhetti, Chair ASCLD/LAB, and an enclosed report of the ASCLD/LAB inspection team's visit of April 10-13, 2000 (12 pages).

8. A letter dated February 14, 2000, from George C. Li, Forensic Scientist Supervisor, Virginia Division of Forensic Science, describing the findings of a DAB audit conducted at Orchid Cellmark in January 2000, the audit report, and a reply from Dr. Robin W. Cotton to Mr. Li dated April 5, 2000 (24 pages).

9. A letter dated December 2, 1999, to Dr. Jennifer Reynolds from Jeffrey Riolo, Criminalist, Washoe County (NV) Sheriff's Office regarding Mr. Riolo's inspection of Orchid Cellmark as required by the "Quality Assurance Standards for Convicted Offender DNA Databasing Laboratories," and a copy of the audit report (10 pages).

10. A letter dated December 2, 1998, from Christine S. Tomsey, Forensic DNA Laboratory Manager, Pennsylvania State Police, and an enclosed audit report based on an audit conducted at Orchid Cellmark in November 1998 (6 pages).

It is our understanding that the enclosed documents and/or above responses represent full compliance with the request for discovery in the above-referenced case. If this is incorrect, please notify us as soon as possible.

If you forward copies of the enclosed materials to other counsel, please keep the documents organized in the same order as you received them. All discovery fees are payable in advance unless other invoicing arrangements are previously approved. A charge will be included for processing (see enclosed discovery fee schedule) and shipping. If you have any questions or need additional information, please call the scientists involved in the above-referenced case (800-872-5227) or me at 301-515-6125.

These materials and/or responses are being provided on behalf of the Forensic Laboratory Director, Robin W. Cotton, Ph.D.

Sincerely,

/s/ Donald G. Fowles
Donald G. Fowles
Discovery Coordinator

Enclosures

cc: Robin Cotton/casefile
Dr. Pam Fish

AMICUS CURIAE BRIEF

No. 10-8505

In The Supreme Court of the United States

SANDY WILLIAMS,

Petitioner,

v.

ILLINOIS,

Respondent.

On Writ Of Certiorari To The Illinois Supreme Court

BRIEF OF AMICI CURIAE NATIONAL DISTRICT ATTORNEYS ASSOCIATION, CALIFORNIA DISTRICT ATTORNEYS ASSOCIATION, AMERICAN SOCIETY OF CRIME LAB DIRECTORS, CALIFORNIA ASSOCIATION OF CRIME LABORATORY DIRECTORS, INTERNATIONAL ASSOCIATION OF CORONERS AND MEDICAL EXAMINERS, NATIONAL ASSOCIATION OF MEDICAL EXAMINERS, CALIFORNIA STATE CORONERS ASSOCIATION, SOCIETY OF WILDLIFE FORENSIC EXAMINERS IN SUPPORT OF RESPONDENT

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QUESTION PRESENTED

Whether the Confrontation Clause is violated when, in a criminal case, a qualified forensic scientist testifies for the prosecution, giving her own opinion which is based in part on reliable data and material prepared by other forensic scientists, of the type that scientists in the field ordinarily and reasonably rely on in reaching a forensic conclusion, when the scientists who prepared the underlying data and material are not called to testify.

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INTEREST OF AMICI CURIAE

This brief is submitted by the National District Attorneys Association, the California District Attorneys Association, the American Society of Crime Lab Directors, the California Association of Crime Laboratory Directors, the International Association of Coroners and Medical Examiners, National Association of Medical Examiners, the California State Coroners Association, and the Society of Wildlife Forensic Science, as amici curiae in support of respondent the state of Illinois.[1]

The National District Attorneys Association (NDAA) is the largest and primary professional association of prosecuting attorneys in the United States. The association has approximately 7,000 members, including most of the nation's local prosecutors, assistant prosecutors, investigators, victim witness advocates, and paralegals. The mission of the association is, "To be the voice of America's prosecutors and to support their efforts to protect the rights and safety of the people." NDAA provides professional guidance and support to its members, serves as a resource and

---

[1] Pursuant to Supreme Court Rule 37.6, amici curiae state that no counsel for any party authored this brief in whole or in part, and that no entity or person, other than amici, their members, and their counsel, made any monetary contribution towards the preparation and submission of this brief. Pursuant to Supreme Court Rule 37.3, amici state that counsel of record for all parties have consented to the filing of this brief in letters on file with the Clerk's office.

education center, produces publications, and follows and addresses public policy issues involving criminal justice and law enforcement.

The California District Attorneys Association (CDAA), the statewide organization of California prosecutors, is a professional organization incorporated as a non-profit public benefit corporation in 1974. CDAA has over 2,500 members, including elected and appointed district attorneys, the Attorney General of California, city attorneys principally engaged in the prosecution of criminal cases, and attorneys employed by these officials. CDAA presents prosecutors' views in significant appellate cases affecting the administration of criminal justice statewide.

The American Society of Crime Lab Directors (ASCLD) is a non-profit professional society that was formed in 1974. The Society has over 600 members, composed of crime laboratory directors, managers, and supervisors from the United States, Canada, Puerto Rico, Virgin Islands, China, Costa Rica, Finland, Hong Kong, Ireland, Italy, England, Israel, Sweden, Switzerland, New Zealand, Singapore, Taiwan, Turkey, and Australia. The membership includes biologists, chemists, document examiners, physicists, toxicologists, educators, instructors, and law enforcement officers whose major function is the management of a crime laboratory. ASCLD's purposes include assisting the development of laboratory management, acquiring, preserving, and disseminating forensic based information, and promoting, encouraging, and maintaining the highest standards of practice.

The California Association of Crime Laboratory Directors (CACLD) has existed for over 40 years, and is a non-profit corporation. Its 140 members are managers, directors, and supervisors of both public and private sector forensic science laboratories, including two federal laboratories administered by the Drug Enforcement Administration and the Bureau of Alcohol, Tobacco and Firearms, 13 laboratories operated by the California State Department of Justice, Bureau of Forensic Services, and 19 public laboratories administered by city and county agencies. All but one of these laboratories are accredited by the American Society of Crime Laboratory Directors/Laboratory Accreditation Board (ASCLD/LAB), the largest forensic science accrediting body in the world. CACLD's purposes include improvement of management in forensic science laboratories, effective exchange of forensic science information, assisting in the preparation of regulatory matters affecting forensic science laboratories, and promoting, encouraging and maintaining the highest professional and ethical standards in forensic science laboratory services.

The International Association of Coroners and Medical Examiners (IACME) was founded in 1927, and includes members from the United States, Mexico, Canada, Georgia, the Philippines, Belgium, Saudi Arabia, Morocco, the Netherlands, and Australia. IACME conducts an accreditation program, and has over 70 years experience in the presentation of educational seminars to assist Coroners and Medical Examiners in performing their duties. This commitment

is enshrined in the Association's Mission Statement: "The International Association of Coroners and Medical Examiners is committed to advancing the accurate determination of the cause and the manner of death through the utilization of science, medicine and the law."

The National Association of Medical Examiners (NAME) is the national professional organization of physician medical examiners, medical death investigators and death investigation system administrators who perform the official duties of the medicolegal investigation of deaths. It was founded in 1966 and has over 1,000 members in the United States and internationally. Membership is open to all physicians, investigators, and administrators who are active in medicolegal death investigation. NAME's purposes include fostering the professional growth of physician death investigators, disseminating professional and technical information vital to the continuing improvement of the medical investigation of violent, suspicious and unusual deaths, promoting excellence in medicolegal death investigation, and the highest practice of ethical conduct.

The California State Coroners Association (CSCA) is a non-profit organization founded in 1968 to promote and protect the interests of all Coroner and Medical Examiner professionals throughout California. Coroners, Sheriff-Coroners, and Medical Examiners have the mandated mission to determine the circumstances, manner, and cause of all violent, sudden or unusual deaths. The Association promotes

professionalism and expertise in the field of medicolegal death investigation. CSCA is committed to communicating its members' concerns to government and regulatory bodies, advocating for sound public policies that affect coroners and medical examiners, promoting professional standards that enhance the effectiveness of medicolegal death investigation service to their communities, and providing excellence in training and education.

The Society for Wildlife Forensic Science was formed in 2009, and has 52 member laboratories, including federal, state, and private labs in this country, as well as laboratories from around the world. The member laboratories conduct forensic analysis and provide testimony for non-human forensic science matters such as poaching, endangered species violations, import violations, animal cruelty, illegal timber harvesting, sea food fraud, ecological disasters, and the analysis of animal material transferred during human crimes. The society includes among its goals the exchange of knowledge and the promotion of accreditation and certification of wildlife forensic scientists.

This case raises matters of concern to prosecutors and forensic science professionals. The decision by this Court will affect how crime labs examine and process evidence, and provide testimony in court. It will also affect how prosecutors prepare for and prove cases with DNA evidence and other types of forensic science evidence. The decision here may also affect what evidence can be proved in court, and even what

cases may be barred from prosecution, depending on rules of Constitutional dimension this Court may announce.

Amici have expertise in the matters pending before the Court in this case, and believe that their brief will be helpful to this Court in its consideration of these matters.

FACTS AND PROCEDURAL BACKGROUND

On the evening of February 10, 2000, while going home from work, L.J. was accosted on the streets of Chicago and raped by a stranger. She ran home, where her mother promptly called police. L.J. was transported to a hospital where Dr. Nancy Schubert examined her and collected vaginal evidence swabs. On February 15, a screening test at the Illinois State Police (ISP) Crime Lab confirmed the presence of semen. The ISP Crime Lab sent the vaginal sample and a reference sample of L.J.'s blood to Cellmark Diagnostic Laboratories in Maryland, a private accredited DNA lab, on November 29, 2000. On April 3, 2001, Cellmark returned the sample to the ISP lab, together with certain data tables of their findings as to L.J.'s reference sample and the rape sample, and an electropherogram graph, showing the DNA profile of the rapist's sperm.

In the interim, in August 2000, Sandy Williams had been arrested for an unrelated offense, which led to taking a blood sample for DNA testing. The DNA

profile from that sample was entered into the ISP Crime Lab database. When the result from the Cellmark analysis of the sperm from L.J.'s rapist was entered into the database, a match was found to Sandy Williams.

ISP analyst Sandra Lambatos then reviewed the data from the DNA profile of Williams from his blood sample, as well as the underlying data and electropherogram graph from Cellmark, and concluded that the rapist's DNA matched Williams. She determined through her own analysis of the specific alleles in both samples that the chance of a random match for the same DNA profile in the general population was one in 8.7 quadrillion (or even less, depending upon the ethnic population group).

On April 17, 2001, L.J. identified Williams in a lineup. On May 1, 2001, an indictment was filed charging Williams with several counts of aggravated sexual assault, aggravated kidnapping, and aggravated robbery.

The case went to trial before the court, sitting without a jury, on April 24, 2006. Analyst Lambatos testified to her opinion on the DNA match, based in part on the data and material from Cellmark. Defendant's objection that the opinion violated the Confrontation Clause was overruled. The court found defendant guilty on April 26.

On appeal, the Illinois First District Appellate Court and the Illinois Supreme Court affirmed the admission of the DNA opinion evidence from Lambatos,

and the conviction. The Appellate Court reversed a portion of the sentence, but the Illinois Supreme Court reversed the Appellate Court on the sentencing issue. *People v. Williams*, 385 Ill.App.3d 359, 895 N.E.2d 961 (2008); *People v. Williams*, 238 Ill.2d 125, 939 N.E.2d 268 (2010).

This Court issued a writ of certiorari to consider the application of the Confrontation Clause to these facts, in light of *Melendez-Diaz v. Massachusetts*, 557 U.S. ___, 129 S.Ct. 2527 (2009), and *Bullcoming v. New Mexico*, ___ U.S. ___, 131 S.Ct. 2705 (2011).

SUMMARY OF ARGUMENT

Melendez-Diaz addressed a situation where the prosecution at trial presented no live witness to testify to the forensic expert opinion, submitting merely a written drug analysis report. *Bullcoming* did not take the matter much further. A written lab analysis report was admitted into evidence without the testimony of the analyst who authored the report. A live witness from the lab did testify about lab procedures, but he had not participated in analysis of the sample in question, there was no indication he had reviewed any of the underlying data and material to arrive at his own opinion, and he did not testify to any forensic opinion, either of his own or that of the original analyst – the opinion only came into evidence through the written report of the original analyst.

Neither the holdings of *Melendez-Diaz* and *Bullcoming*, nor their underlying rationales, provide the basis for concluding that a qualified expert who has reviewed the work, records, and data produced by other experts, reaches her own opinion based in part on data from other experts, then testifies to that opinion, offends the Confrontation Clause. In light of the realities of forensic science practice, the testimony of a qualified expert who is familiar with the applicable science, who reviews the underlying lab data and material from other scientists, and then arrives at her own forensic opinion to which she testifies, provides constitutionally meaningful and adequate confrontation. Anecdotal evidence of a small number of cases where DNA analysis errors were made does not provide grounds for reaching a different result.

ARGUMENT

I. THE CONFRONTATION CLAUSE DOES NOT PROHIBIT TESTIMONY OF AN EXPERT ANALYST THAT IS BASED ON THE WORK OF ANOTHER ANALYST

Appellant asserts error based on a claimed violation of the Confrontation Clause, citing *Crawford v. Washington*, 541 U.S. 36 (2004), *Melendez-Diaz v. Massachusetts*, 557 U.S. ___, 129 S.Ct. 2527 (2009) and *Bullcoming v. New Mexico*, ___ U.S. ___, 131 S.Ct. 2705 (2011). The Illinois Supreme Court concluded the Confrontation Clause was not violated in this

case. The Illinois Supreme Court correctly decided this issue.

In *Melendez-Diaz*, police initially found several plastic bags containing a white substance linked to the defendant. At trial on drug charges, following a procedure then available in Massachusetts, the prosecution presented three "certificates of analysis" attesting to the crime lab results (cocaine), without the testimony of any witness. See 557 U.S. at ___, 129 S.Ct. at 2530-2531. Applying *Crawford*, this Court ruled 5-4 that such a procedure denied the defendant the right to confrontation of witnesses under the Sixth Amendment.

Bullcoming involved a driving under the influence case, where the original analyst of the defendant's blood sample (Caylor) did not testify, and a lab supervisor (Razatos) did testify. Razatos explained the general lab procedures, practices, and forms, but there was no evidence he had taken any part in the preparation of the report, reviewed Caylor's underlying lab data in the specific case, nor reached his own opinion as to the defendant's blood alcohol level. He was not asked to give his own forensic opinion based on any material he may have reviewed. Instead, after Razatos's explanation of the general process, the state moved Caylor's report into evidence, and that report provided the only forensic opinion evidence as to the defendant's blood alcohol level. In short, *Bullcoming* was nothing more than *Melendez-Diaz* with the addition of Razatos giving a general overview of lab

procedures, without any case-specific review, analysis or opinion of his own.

The situation in the case at bar is materially different from those addressed in *Melendez-Diaz* and *Bullcoming*. First, unlike those cases, the underlying reports and data from the non-testifying experts from Cellmark were not submitted as evidence. Second, in this case, the testifying expert Sandra Lambatos personally reviewed and relied upon data and material from Cellmark, used it to arrive at her own opinion, then testified to her own opinion. The admission into evidence of Lambatos's own opinion is what petitioner challenges here.

The *Melendez-Diaz* majority at no point held that an expert opinion could not be introduced through live testimony of an expert who based her opinion on non-admissible matter, including hearsay, of the type reasonably relied on by experts in the particular field. This, of course, is the modern rule for expert testimony in the vast majority of jurisdictions in this country. It is the rule in the Federal Rules of Evidence (FRE). Federal Rule of Evidence 703. Forty-three states have adopted the federal rules (in whole or with some modifications), as have Puerto Rico, Guam, and the military. *Weinstein's Federal Evidence*, 2d ed., vol. 6, pp. T-1 through T-9.[3] Illinois had not fully adopted

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[3] Seven states have not adopted the federal rules: California, Georgia, Kansas, Massachusetts, Missouri, New York and Virginia. *Weinstein's Federal Evidence*, supra, vol. 6, pp. T-1 through T-9.

the federal rules at the time of the trial in the instant case; the Illinois Supreme Court adopted the Illinois version of the rules in September 2010, effective January 1, 2011.[3] However, twenty years ago, as to expert evidence, the Illinois Supreme Court adopted Federal Rules 703 and 705 in *Wilson v. Clark*, 84 Ill.2d 186, 417 N.E.2d 1322 (1981).

Jurisdictions which have not adopted the federal rules generally have a counterpart to Rule 703 which reaches the same result. See e.g. *People v. Angelo*, 88 N.Y.2d 217, 222, 644 N.Y.S.2d 460 (1966), and *People v. Radesi*, 11 A.D.3d 1007, 1008, 782 N.Y.S.2d 341 (2005); California Evidence Code § 801(b).[4]

Melendez-Diaz at no point suggested its holding was intended to undercut this longstanding and widespread rule. As the Fifth Circuit explained in *United States v. Williams*, 447 F.2d 1285, at 1290 (5th Cir. 1971, en banc) " . . . when the expert witness has consulted numerous sources, and uses that information, together with his own professional knowledge and experience, to arrive at his opinion, that opinion is regarded as evidence in its own right and not as hearsay in disguise." See also *United States v. Henry*, 472

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[3] The Illinois version of Rule 702 makes it clear Illinois continues its adherence to the *Frye* test (*Frye v. United States*, 293 F. 1013 (D.C. Cir. 1923)), rather than adopting the standard of *Daubert v. Merrell Dow Pharmaceuticals*, 509 U.S. 579 (1993).

[4] In fact, California Evidence Code § 801, enacted in 1965, was cited in the Advisory Committee Notes to FRE 703, which was adopted ten years later in 1975.

F.3d 910, 914 (D.C. Cir. 2007); *State v. Delaney*, 171 N.C.App. 141, 143, 613 S.E.2d 699, 700 (2005); *Pendergrass v. State*, 913 N.E.2d 703, 708-09 (Supreme Court Ind. 2009); *State v. Lewis*, 235 S.W.2d 136, 151 (Supreme Court Tenn. 2007). To the extent petitioner would have this Court exclude the testimony of analyst Lambatos, it would abrogate this longstanding rule when neither the text nor reasoning of *Melendez-Diaz* provide any basis for doing so.

Nor did *Bullcoming* give cause to believe this rule regarding expert opinion testimony based on the work of others was abandoned. Indeed, the opinion of this Court in *Bullcoming* specifically noted the prosecution in that case did not assert that the witness Razatos had any independent opinion concerning the defendant's blood alcohol level. ___ U.S. at ___, 131 S.Ct. at 2716; see also concurring opinion of Justice Sotomayor, ___ U.S. at ___, 131 S.Ct. at 2722.

There is good reason why *Melendez-Diaz* and *Bullcoming* do not serve as a basis for rejecting the admissibility of expert testimony based on reliable hearsay of the type normally considered by experts in the field. Both cases are based on the rule of *Crawford* as to the meaning of the Sixth Amendment Confrontation Clause. But *Crawford* only applies to hearsay admitted for the truth of the matter. It does not apply to statements that are not admitted for the truth of the matter. *Crawford*, supra, 541 U.S. at 59, fn. 9. Hearsay material relied on by an expert, when it is admitted at all during the testimony of the expert, is *not* admitted for the truth of the matter. See

FRE 703, and comment to 2000 revision; see also *United States v. Henry*, supra, 472 F.3d at 914.

Supporting this argument is the fact that the evidentiary rules concerning hearsay used as the basis for expert opinion are not codified as hearsay exceptions, nor are they in the part of the Evidence Rules dealing with hearsay. Rules 702, 703, and 705, dealing with the basis of expert testimony, is in Article VII of the federal rules, entitled "Opinions and Expert Testimony." The evidence rules defining hearsay and hearsay exceptions are in Article VIII. While Illinois did not adopt its full version of the evidence rules until 2010, it follows this same structure. Jurisdictions not using the federal rules approach the issue in a similar way. California, for instance, deals with material that is the basis for expert opinion in California Evidence Code §§ 801 and 802, which are in Division 7 of the California Evidence Code (entitled "Opinion Testimony and Scientific Evidence"), not in Division 10 of that code, dealing with hearsay.

One should also note that an expert who has relied on hearsay matter will not always, or even usually, be allowed to testify over objection on direct examination as to the details of the underlying hearsay. FRE 703, comment to 2000 revision; *United States v. Henry*, supra, 472 F.3d at 914. In this regard, it is noteworthy that in the case at bar, the details of the Cellmark report on which Lambatos relied were not elicited on direct examination by the prosecution. Joint Appendix (hereafter J.A.), at pp. 49-58. Rather, it was the defense on cross-examination

which brought into evidence the details of the Cellmark data and report. J.A. pp. 62-85.

When the prosecution feels the need to reference the underlying details of the hearsay material for the jury to fully understand the opinion of the testifying expert, the trial court may in its discretion permit the testimony, with a limiting instruction, directing the trier of fact not to consider the evidence for the truth of the matter. FRE 105, 703. Enforcement of these rules can protect the rights of a criminal defendant while still permitting the admission of the expert opinion.

Based on the foregoing, there is no reason to conclude *Melendez-Diaz* or *Bullcoming* prohibit the admissibility of the testimony of an expert such as Lambatos, when her testimony is based on data from an underlying expert of the type reasonably relied on by experts in the field.

II. THE UNDERLYING RATIONALES OF *MELENDEZ-DIAZ* AND *BULLCOMING*, THAT FORMALIZED TESTIMONIAL MATERIAL REQUIRES CONFRONTATION, DO NOT COMPEL EXCLUSION OF THE TESTIMONY OF ANALYST LAMBATOS

Analysis of the confrontation basis for *Melendez-Diaz* and *Bullcoming*, as those precedents apply to this case, reveals that the underlying legal principles do not compel the exclusion of the testimony of analyst Lambatos here.

As the record in this case illustrates, scientific analysis in the modern forensic laboratory may involve work by a number of individuals. The forensic rape exam sample from the victim L.J. passed through the hands of Dr. Schubert who took the sample; the ISP officer who booked the sample into evidence; ISP forensic biologist Bruce Hapack who tested for and confirmed the presence of semen; the ISP employees who batch packaged several sealed case samples, including this one, for shipment; the FedEx employees who transported the package to Cellmark Diagnostic Laboratory in Maryland; and the scientists at Cellmark who examined the sample and derived a genetic profile of the sperm. However, the key evidence was the forensic opinion of forensic biologist Sandra Lambatos, who examined and relied on the data and records of the Cellmark scientists, including the electropherogram of the genetic content (DNA profile) of the semen sample. J.A. p. 62. Lambatos concluded the genetic profile of the rapist's semen matched the genetic profile of petitioner Williams, with the chance that the same genetic profile would occur at random in the general population being in the quadrillions. Lambatos, the witness who arrived at this opinion, testified at petitioner's trial, and was subject to cross-examination. Petitioner objects that the scientists at Cellmark who produced part of the data that Lambatos relied on did not testify.

In considering whether the testimony of Lambatos violated the confrontation precedents of this Court, one must look to the lowest common denominator of

the rationale accepted by the majority in *Melendez-Diaz* and *Bullcoming*, which requires focus on whether the evidence at issue amounts to "formalized testimonial materials" within the reach of the Confrontation Clause. See *Melendez-Diaz*, concurring opinion of Justice Thomas, 557 U.S. at ___, 129 S.Ct. at 2423. By declining in *Bullcoming* to join in footnote 6 of Justice Ginsberg's opinion, Justice Thomas affected the rationale of the majority in that case. Footnote 6 stated that in determining whether the evidence at issue was covered by the Confrontation Clause, one must look to whether the evidence statement or report had as a "primary purpose" the "establish[ing] or prov[ing] past events potentially relevant to later criminal prosecution." ___ U.S. at ___, 131 S.Ct. at 2714.

Justice Thomas had previously dissented from the use of the "primary purpose" test for confrontation analysis in *Davis v. Washington*, 547 U.S. 813 (2006), proposing instead analysis based on whether the evidence was "formalized testimonial material." See concurring and dissenting opinion of Justice Thomas, 547 U.S. at 834-842. "Formalized testimonial material" may be viewed as a subset of "primary purpose" material. But the "primary purpose" view does not represent the opinion of the Court in *Bullcoming*, because it did not command five votes. Since only the "formalized testimonial materials" subset had the agreement of a majority of the Court, Justice Thomas's view establishes the high water mark for the reach of the Confrontation Clause in forensic lab

evidence cases. See *Marks v. United States*, 430 U.S. 188, 193 (1977).

An understanding of the meaning of "formalized testimonial materials" can be found in Justice Thomas's opinion in *Davis*. Justice Thomas explained the framers intended the Confrontation Clause to prevent the practice employed under the Marian statutes in 16th century England, when witnesses were examined outside the presence of the court, the examinations were transcribed, and the transcripts were then commonly submitted later to the court as part of the trial, without the witnesses testifying. 547 U.S. at 835-836. Based on this historical analysis of the Confrontation Clause, Justice Thomas concluded that the clause was directed only at "formalized testimonial materials, such as affidavits, depositions, prior testimony, or confessions." Id., at 836.

In *Davis*, this Court considered two joined cases. In one, a police officer responding to a domestic violence call questioned a woman. The questioning was in the nature of a conversation, not a formalized dialogue, the woman was not Mirandized, she was not in custody, and there was no other indication of solemnity or formality in the taking of her statement. Justice Thomas concluded that this statement did not have the solemnized or formalized character of an affidavit, deposition, prior testimony, or confession, and thus was not covered by the Confrontation Clause.

547 U.S. at 835-842. Justice Thomas in explanation noted:

> Affidavits, depositions, and prior testimony are, by their very nature, taken through a formalized process. Likewise, confessions, when extracted by police in a formal manner, carry sufficient indicia of solemnity to constitute formalized statements and, accordingly, bear a "striking resemblance," . . . to the examinations of the accused and accusers under the Marian statutes. 547 U.S. at 837.

He went on to observe that although many interactions between witnesses and law enforcement officials could have adverse legal consequences for the speaker who is dishonest, that " . . . does not, however, render those statements solemnized or formal in the ordinary meaning of those terms." 547 U.S. at 838, fn. 3.

Justice Thomas concluded in *Melendez-Diaz* that the "certificates of analysis" as to the drugs admitted without any testimony were "quite plainly affidavits," and thus "formalized testimonial materials," (Thomas, J. concurring, 557 U.S. at ___, 129 S.Ct. at 2543). The lab report of the blood alcohol level admitted into evidence in *Bullcoming* was comparable to the *Melendez-Diaz* certificates.

The same cannot be said for the Cellmark materials at issue in the case at bar. The underlying laboratory work by some scientists, which in turn is relied on by another scientist (Lambatos), who then testifies in court, does not amount to "formalized

testimonial materials" covered by the Sixth Amendment so as to exclude the testimony of the analyst Lambatos.

First, the lab work by the Cellmark scientists was not offered by the state into evidence, one clear indication that the material was not used as, nor did it take on the character of, formalized testimonial material.

Further, the Cellmark material included charts with the genetic profiles of both the victim and the sperm donor, and the output from the instrument which actually analyzed the amplified the DNA sample – a line graph, or eletropherogram, representing a visual depiction of genetic material in the rapist's sperm sample. Such materials are not affidavits, depositions, prior testimony or confessions. Indeed, they are not solemnized, formalized or prepared in a fashion so that a court or jury could look at them and understand or interpret them to incriminate the petitioner, or anyone else, either alone or in combination with other evidence. Neither an electropherogram line graph, nor a chart with a list of alleles at specified loci, becomes incriminating in character until an expert like Lambatos reviews the data, interprets it, concludes from the electropherogram that certain specific alleles are attributable to the sperm donor, compares and matches those to the alleles found in the analysis of the petitioner's DNA sample taken at his unrelated arrest, and then, relying on population genetic studies of the frequency of the alleles in the general population, makes a probability calculation for

that combination of alleles (or DNA profile) occurring in a single person. Lambatos explained in her testimony how she did all of that, reviewing, analyzing and interpreting the data itself, to arrive at her opinion. J.A. pp. 62-85.

It is significant to note that Lambatos did not simply parrot back a report from Cellmark. On cross-examination, she explained how she interpreted one of the electropherogram graph peaks differently than had been reported out by Cellmark, although her final conclusion as to the genetic profile of the rapist's sperm was the same. J.A. pp. 78-79. In addition, her review of the electropherogram allowed her to reach an opinion as to whether or not the forensic sample suffered from degradation, which could have affected the interpretation. J.A. pp. 81-82.

The underlying data from Cellmark does not have the character of formalized testimonial materials when, as here, the data and lab material cannot be understood by the trier of fact without the analysis and interpretation of the expert Lambatos, the raw data was not even offered in evidence by the state, and neither the Cellmark data charts nor the electropherogram graphs were admitted into evidence. As used to provide a basis for the analysis and opinion of Lambatos, the materials are not formalized testimonial materials under the Confrontation Clause, *Melendez-Diaz* and *Bullcoming*.

III. TESTIMONY OF AN ANALYST SUCH AS LAMBATOS PROVIDES A CRIMINAL DEFENDANT CONSTITUTIONALLY MEANINGFUL AND SUFFICIENT OPPORTUNITY TO CONFRONT WITNESSES AND TEST THE RELIABILITY OF MODERN FORENSIC DNA OPINION EVIDENCE

A. DNA Opinion Testimony by an Analyst Who Bases Her Opinion on Data from Other Scientists Is Both Consistent with Forensic Scientific Practice and Sufficient Under the Constitution

Another point reflects on the propriety of the expert testimony by analyst Lambatos, or any similarly situated expert. It relates to the reality of scientific work as it takes place in the modern forensic laboratory and as it was described in the record of this case.

DNA analysis involves many steps or processes:

- screening for the presence of biological material that may be of interest;
- extraction of DNA;
- quantification of DNA;
- amplification (copying) of DNA through PCR (polymerase chain reaction);
- analysis of the DNA to separate and detect alleles, using a machine which produces a graph, called an electropherogram, which presents a visual depiction of the genetic material, which can then be interpreted to give a DNA profile;

- comparison of the DNA profile results to other samples (i.e. comparison of the electropherogram charts and profile from an unknown rapist to the known DNA profile of a suspect);
- when there is a match, calculating the likelihood of a random match for the same genetic profile within the general population.

See Butler, *Forensic DNA Typing: Biology, Technology and Genetics of STR Markers*, Elsevier Academic Press (2d Ed. 2005), pp. 5-8; Chamberlain, "A Simplified Overview of Forensic DNA Testing," *The Journal of the Institute for the Advancement of Criminal Justice*, Issue 3, 2009, pp. 5-6.

While some DNA laboratories assign a single analyst to conduct all of these steps on a given sample or case, others employ a batch process using teams of analysts. With this method, each separate step of the process will be assigned to a different analyst, in an assembly-line fashion. Samples, et al., "The Rotating Analyst – The NYC OCME Casework System," *Progress in Forensic Genetics 8, Proceedings of the 18th International ISFH Congress*, Sensabaugh, et al., editors, Elsevier (2000), pp. 619-621. Individual labs may rotate the analysts from station to station on a regular basis (i.e., weekly). According to its proponents, "[t]he batch processing method allows high throughput without sacrificing quality." Id., p. 620. Both the New York City Office of the Chief Medical Examiner DNA lab and the FBI DNA lab use an assembly-line batch processing system. Id., p. 619;

U.S. Department of Justice, Office of the Inspector General, "The FBI DNA Laboratory: A Review of Protocol and Practice Vulnerabilities," May 2004, Chapter 3, I, B, 1.

High throughput is significant to many DNA labs. The New York City Office of the Chief Medical Examiner reported more than a decade ago that it was performing DNA testing on approximately 3000 cases per year. Samples, supra, p. 619. The California Crime Laboratory Review Task Force reported that state has 27 public crime labs accredited in biology (DNA) analysis, with a backlog of 15,779 DNA case requests as of December 31, 2007. California Crime Laboratory Review Task Force, *An Examination of Forensic Science in California, November 2009*, pp. 66, 77-78. With this type of caseload pressure, the ability to accurately process a large volume of samples takes on greater importance.

A batch, assembly-line procedure was apparently used in the instant case. While analyst Lambatos did not personally travel from Illinois to Maryland to view the DNA testing of the forensic rape sample, she testified to being aware that Cellmark used the batch processing system, rather than having a single analyst perform all of the steps. She also testified that to her knowledge, Cellmark is an accredited DNA laboratory, which would be one cause for her to conclude

that she could reasonably rely on the data she received from that lab.[4] J.A. pp. 49, 74.

Given this accepted scientific practice, if the rule petitioner seeks were adopted, one should consider which or how many analysts must testify to satisfy the Confrontation Clause. Different steps in the analysis involve handling the sample, putting it through physical, chemical, or machine operated processes, then analyzing the results, before moving the sample on to the next step. Thus, it is not (as amicus curiae the Innocence Project suggests) a matter of having a single scientist from Cellmark testify. One sample may be processed by as many as seven or eight individuals, depending on the organization of the assembly-line. When the assembly-line uses the sample (and not the case) as the individual unit, if a case has more than one sample (i.e., a vaginal swab, a clothing stain, and a bedding stain), each sample will move through the assembly-line(s) separately, so it is conceivable the number of analysts involved in the case will multiply. It is neither practicable nor consistent with scientific practice to expect that in such a system, a single analyst will have witnessed, much less conducted, all of the steps in the process for any particular sample, since to do so would increase the number

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[4] Forensic laboratory accreditation programs to develop and ensure quality assurance compliance date back to 1981. See *Crime Lab Report*, December 2007 (available at http://www.crimelabreport.com/monthly_report/12-2007.htm, last viewed 10/18/11). The evidence in this case was tested in 2000.

of analysts whose time was occupied by a particular sample, watching over the shoulder of others throughout all of the procedures, when the purpose of the batch system is to streamline the process.

The rule petitioner proposes would require each of the analysts who individually process the sample in each separate step to testify. Such a result would have a serious, negative impact on forensic science work. The time lost by multiple analysts traveling to court and testifying would impact the amount of work that could be done in the laboratory. Faced with this prospect, some crime labs might abandon, or not consider using, the efficiencies allowed by the batch processing system, which in turn would impact crime lab capacity, and case backlogs.[6]

Any rule that inhibits or discourages the ability of a DNA lab to accurately and efficiently process the volume of cases it must deal with will impact not only the guilty whose apprehension and prosecution may be delayed. It will impact victims who will suffer at the hands of repeat offenders until they are identified and apprehended. It will also impact the innocent who may wait to be cleared from suspicion or exonerated from mistaken conviction, since, as this Court has noted, DNA testing has an unparalleled ability not only to identify the guilty, but also to exonerate

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[6] The reason the Illinois State Police Crime Lab employed Cellmark to do DNA analysis on forensic samples was to reduce its backlog. J.A. pp. 49-50.

the innocent. *District Attorney's Office v. Osborne*, 557 U.S. ___, 129 S.Ct. 2308, at 2310 (2009). In times of limited resources, the adoption of procedures which reduce the ability of DNA labs to perform this important work in a timely fashion makes little sense from a practical or Constitutional point of view, particularly when the witness who rendered the key forensic opinion – in this case Sandra Lambatos – did in fact testify and submit to cross-examination.

It is not a sufficient answer to say that few cases go to trial, so the impact of such a rule will be limited. For laboratories employing the batch processing method, sending seven or more analysts to court for testimony on every case that does go to trial will be highly disruptive to overall lab operations. Also, since DNA evidence tends to be used in serious cases (murders, sex assaults, crimes of violence) with significant penalties, and because DNA evidence is so powerful, a defendant facing a substantial prison sentence will be motivated to demand that all necessary witnesses appear to authenticate each step of the analysis, hoping that at least one of the seven or more analysts necessary will be unable to testify at the time scheduled for trial, stalling the case in its tracks.

Nor, in a case such as this, can the fear that chance contamination led to a false positive result be a driving force to insist on confrontation of the bench analysts who worked on the rape sample. Cellmark did not receive or test a reference sample of petitioner Williams's blood or other DNA (Williams was not a suspect at the time Cellmark did its testing). Any

contamination would have to come from some source other than Williams, and that contamination must have been such that it produced, through a chance occurrence, a genetic profile that occurs less than one out of eight quadrillion times in the general population.

Nor can DNA testing be equated to the blood alcohol analysis discussed in *Bullcoming*, where Justice Ginsburg (in section IV of her opinion, a section which was not the opinion of the Court) noted that New Mexico, which preserves sufficient blood sample for retesting, could have done so with a new analyst, and presented the testimony of that analyst live. ___ U.S. at ___, 131 S.Ct. at 2718. First, the number of steps involved in DNA testing, and the complicated nature of those steps, necessarily lead to a much longer retesting process. More importantly, in many DNA cases, the forensic sample is so small that it is entirely consumed in the initial testing process, making retesting impossible.

B. A Rule Requiring Direct Testimony by All Scientists Who Produce Data Relied on by the Testifying Scientist Is Not Consistent With Actual Scientific Practice, Constitutionally Unnecessary, and Will Result in Undue Restrictions on the Practice of Many Forensic Science Disciplines and the Admission of Scientific Evidence

Petitioner's proposed rule would have an effect on more than just the processing and courtroom

presentation of DNA evidence. Other forensic disciplines will be affected as well. Certainly one is forensic pathology.

An autopsy will involve the examination and dissection of the body, with the pathologist's observations recorded at or near the time they are made, the taking of photographs, x-rays, body fluid samples for toxicology examination, and tissue slide samples for microscopic examination. See Saukko and Knight, *Knight's Forensic Pathology*, Edward Arnold (Publisher), 2004, pp. 29-32, 35; Adelson, *The Pathology of Homicide*, Charles C. Thomas (Publisher), 1974, pp. 63-65, 68, 70-101. These materials serve not only in the immediate examination, study, and conclusions at the time the autopsy is pending, but also for future reference in the event of later investigation, or in cases of homicide, a future criminal trial. However, it is not always the case that the autopsy pathologist personally examines all the material, or conducts all the tests. A blood sample may be tested for alcohol or drugs by a toxicologist. An x-ray may be reviewed and the results reported by a radiologist. Tissue slide samples may be prepared by a histologist. As in any branch of medicine, the doctor will rely on these testing procedures, conducted by others, in making his/her diagnosis. The rule proposed by petitioner would operate contrary to actual medical and scientific practice by requiring that each of the underlying specialists on whom the autopsy pathologist relied in reaching his/her opinion must come to court and testify.

Another aspect of how petitioner's proposed rule would affect autopsy evidence should also be considered. With modern investigative techniques, it has been possible to re-examine unsolved cases that are many years old, and conclusively identify the perpetrator. See e.g. *People v. Nelson*, 43 Cal.4th 1242 (2008), in which the 1976 rape murder of a 19 year old college student was solved 26 years later in 2002 through DNA analysis.

It does not take a geriatric specialist, or a mortality rate actuary, to recognize that in many of these cases, the original pathologist will no longer be available when the crime is solved and the case brought to trial. But availability or unavailability has no constitutional significance if the Confrontation Clause applies to the evidence at issue, and the defendant has not had a prior chance to cross-examine the witness. *Crawford* and *Melendez-Diaz* point out that, "absent a showing that [the witnesses covered by the Confrontation Clause] were unavailable to testify at trial *and* that petitioner had a prior opportunity to cross-examine them, petitioner was entitled to 'be confronted with' the [witnesses] at trial." *Crawford*, supra, 541 U.S. at 54; *Melendez-Diaz*, supra, 557 U.S. at ___, 129 S.Ct. at 2532 (emphasis in the original).

Should the Court in the case at bar set out a rule so broad it would bar the testimony of a substitute pathologist who had reached his/her own opinion after reviewing the autopsy report, records, notes, photos, and x-rays of the original pathologist, the result would

be that in many murder cases, the prosecution would be left without the means of proving the manner and cause of death, or authenticating post-mortem samples important for forensic analysis. Given that there is no statute of limitations for murder, and that modern DNA technology now permits conclusive identification of many homicide perpetrators years, even decades after the crime, this is a shocking result.

This is not just a hypothetical matter. The situation in *People v. Beltran*, 2011 WL 1167916, 2011 Cal.App. Unpub. Lexis 2425 (2011)[7] illustrates the point. The defendant was charged with a murder, committed in San Francisco on October 22, 2000. After the crime, he fled to Mexico. He was apprehended there in June 2006, and returned for prosecution in 2007. While the defendant was a fugitive, Dr. Boyd Stephens, the Chief Medical Examiner of San Francisco who conducted the autopsy, had died in 2005. Dr. Amy Hart, who was Dr. Stephens's successor, reviewed Dr. Stephens's autopsy notes and autopsy report, and reached her own opinion as to the cause of death, to which she testified at trial. Dr. Stephens's

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[7] The opinion by the California First District Court of Appeal in this case of March 30, 2011, was not certified for publication under California Rule of Court 8.1105. The California Supreme Court granted a hearing to review the case on June 15, 2011; the matter is still pending in that court. The case is not cited here for any principle of law, but rather for its factual circumstances, set out in the trial court record and described in the opinion of the Court of Appeal.

autopsy report was also admitted into evidence. On appeal, the defendant contended the admission of the autopsy evidence, including the testimony of Dr. Hart, violated the defendant's right to confrontation under *Crawford*. If petitioner's proposed rule were adopted, the prosecution in *Beltran* would be unable to prove the autopsy results.

Along similar lines, in Illinois alone, in the 12 month period from December 2009 through November 2010, three reported appellate cases describe homicides in which the pathologist who performed the autopsy had retired, so a different pathologist was called in to review all the underlying material and render an opinion as to the cause of death. *People v. Leach*, 405 Ill.App.3d 297, 939 N.E.2d 537 (2010); *People v. Pitchford*, 401 Ill.App.3d 826, 929 N.E.2d 655 (2010), cert. den. ___ U.S. ___, 131 S.Ct. 2959 (6/6/11); *People v. Nugen*, 399 Ill.App.3d 575, 926 N.E.2d 760 (2009). Certainly many other cases (Illinois cases not yet at the appellate level, or not resulting in a published appellate opinion, and cases from other states) will have this issue.

The import of the rule petitioner proposes should also be considered in light of another reality of forensic pathology practice. A murder trial will commonly take place at least one year, and in some instances a decade or more, after the autopsy. The National Association of Medical Examiners (NAME) sets a caseload of up to 250 autopsies per examiner per year

as normal. A caseload in excess of that figure is considered a "Phase I" deficiency for NAME accreditation purposes, with 325 autopsies per year or more marking a more serious "Phase II" deficiency. See DiMaio, et al., *Forensic Pathology*, 2d ed., CRC Press, 2001, p. 19; NAME Accreditation Checklist, pub. 11/3/09, p. 25; *Strengthening Forensic Science in the United States: A Path Forward*, National Academies Press, 2009, pp. 9-13.

Examples from major forensic pathology agencies add further insight into case load levels. The Chief Medical Examiner for New York City employs approximately 32 medical examiners, who perform approximately 5,500 autopsies per year, or 172 autopsies per year for each examiner. See http://www.nyc.gov/html/ocme/html/about/authority.shtml (last viewed 10/18/11).

The King County, Washington Medical Examiner's Report for 2009 shows six members of the Pathology Department (excluding the forensic anthropologist) responsible for 1,226 autopsies, 204 autopsies per examiner per year. See "King County Medical Examiner's Office 2008 Annual Report," pp. 9 and 126. The Arkansas State Medical Examiner's Officer employs four medical examiners who conduct 1000 autopsies per year, or 250 per examiner. See Arkansas State Crime Laboratory, State Medical Examiner website: http://www.crimelab.arkansas.gov/sectionInfo/Pages/StateMedicalExaminer.aspx (last viewed 10/18/11).

Thus, if a trial takes place just a year after the autopsy, the pathologist can be expected to have performed 150 to 250 autopsies since the one at issue in the trial; and of course, hundreds, perhaps thousands before that, depending on the length of his/her career. If the trial occurred ten years after the crime, the pathologist would have performed more than one thousand, perhaps more than two thousand autopsies. To suggest that the original pathologist will remember individual case details beyond those documented and recorded for the autopsy report, or preserved for later review in the autopsy photos, x-rays, tissue slides, and other autopsy records, is simply not realistic. When the original pathologist testifies in a homicide case months or years after the autopsy, he/she will quite properly rely on custom and practice, past recollection recorded, the business records of the autopsy description, records, and photos that he/she used to record and document the autopsy at the time it took place.

A qualified substitute pathologist would review exactly the same material in reaching a conclusion and testifying at trial. In such a circumstance, whether the testimony comes from the pathologist who performed the autopsy, or one who later reviewed the autopsy report, records, x-rays, slides, and photographs and reached his/her own opinion, the resulting testimony, both on direct and cross-examination, will be much the same.

There is one striking difference between the pathology situation and blood alcohol testing, or much DNA testing. In blood alcohol situations, and in many DNA situations, it may be possible to retest what remained of the blood sample or forensic sample (assuming the sample was saved). In the pathology situation, it would commonly and usually be impossible years after the event to repeat the autopsy examination with a different pathologist. The adoption of petitioner's proposed rule would serve as an effective bar to many murder prosecutions, notwithstanding the fact that qualified pathologists can and do rely on past autopsy materials and records produced by other practitioners to reach a medically reliable opinion as to cause of death – just as physicians in other branches of medicine rely on the work of other practitioners in reaching diagnosis opinions and making patient treatment decisions.

In terms of meaningful confrontation, the defense certainly has the ability to establish that the source of the facts behind the opinion of the testifying expert is the work of an earlier analyst or examiner. Should the defense wish to impugn the work history or practices of the original analyst or pathologist by bringing out that person's past history, such could readily be done through cross-examination of the testifying expert, or by other means, just as would be the case if the original expert had testified.

But even if the original pathologist was available to testify, his or her testimony about an autopsy conducted years ago, after a career involving hundreds, or thousands of autopsies, would not be any more constitutionally meaningful than the testimony of another qualified pathologist who reviewed the same material the original pathologist would now review in preparation for testimony about one particular autopsy out of hundreds or thousands.

Relating this point to the case at bar, each of the Illinois State Police forensic biologists who testified in this case (Karen Abbinanti, Brian Hapack, and Sandra Lambatos) had personally conducted the analysis for thousands of samples. J.A. pp. 8, 30, 46-47. There is no reason to believe that the scientists at Cellmark, which advertises that it "has performed DNA forensic analyses in tens of thousands of cases and for hundreds of thousands of offender samples," would be any different.[8] Nor is there any reason to expect their actual recollection or testimony of the testing steps undertaken for one particular DNA sample out of thousands would be any more meaningful.

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[8] See Orchid Cellmark website, Forensic DNA page, at http://www.orchidcellmark.com/forensicdna.html (last accessed 10/18/11). The name Orchid Cellmark, Inc. was adopted as the name of the corporation in 2005.

Forensic pathology, and DNA testing where the entire forensic sample was consumed in the original testing, are only two examples of this practical issue. Lifting of latent fingerprints from a crime scene, collection of sexual assault physical evidence, and many other forensic disciplines carry potential for the same problem. Adherence to a mechanical rule, without allowance for the testimony of a qualified expert who reached his/her own opinion based on reliable data prepared by others, will create an unreasonable and constitutionally unnecessary barrier to scientific forensic evidence in many situations, and limit the ability of the forensic science community to serve the criminal justice system and the public.

IV. ANECDOTAL EVIDENCE OF ISOLATED INSTANCES OF DNA TESTING ERRORS SHOULD NOT PROVIDE A BASIS FOR THE EXPANDED CONFRONTATION RULE PETITIONER PROPOSES

In its amicus brief before this Court, the Innocence Network notes the human element that is common to all forensic sciences, and cites "at least 15 exonerations where DNA evidence was tested prior to conviction." Amicus curiae brief of the Innocence Network in Support of Petitioner, p. 3.

As noted above, the volume of DNA testing is very high. DNA forensic testing in this country began in the mid-1980's, with the first conviction based on DNA evidence in 1987. Hibbert, "DNA Databanks:

Law Enforcement's Greatest Surveillance Tool?" 34 Wake Forest L.Rev. 767, 773 (1999). The first published appellate opinion in this country upholding the use of DNA evidence in a criminal case appears to be *Cobey v. State*, 80 Md.App. 31, 599 A.2d 391 (6/28/1989).[9] As noted above, by 2000 the New York City Office of the Chief Medical Examiner alone reported a volume of 3,000 DNA cases per year in that laboratory. California reported over 17,000 DNA case analysis requests just in the year 2007. See California Crime Laboratory Review Task Force report, supra, at p. 64. The private DNA lab at Cellmark has tested tens of thousands of forensic samples, and hundreds of thousands of offender samples. See Orchid Cellmark website, Forensic DNA page, cited at footnote 7, above. Given these figures, it is fair to conclude that the overall number of DNA case analyses nationwide in the last 25 years is in the hundreds of thousands.

Your amici do not defend negligent, sloppy, or deficient lab practices which lead to inaccurate results. Amici are dedicated to the highest standards of forensic science and ethics. But given over two decades of forensic DNA analysis in this country, the fact that human beings made some type of mistake in 15 cases should not be surprising. Nor is it cause to sound the alarm, especially when many of the 15 cases cited involved errors that were not uncovered

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[9] Interestingly, the analysis in *Cobey* was done by Cellmark.

through confrontation and cross-examination. It is a slender reed on which to build a Constitutional principle.

CONCLUSION

Melendez-Diaz and *Bullcoming* did not alter the fundamental rule in the field of expert evidence that an expert may base an opinion on the work of another expert. In the real world of modern scientific forensic analysis, a criminal defendant's right to confront, cross-examine and test a forensic opinion on such matters as DNA testing is meaningfully and sufficiently protected when an analyst like Sandra Lambatos testifies. The adoption of petitioner's proposed rule would, in the pursuit of formalism without regard to real world practice or consequences, significantly impact forensic science and crime laboratory operations. Insistence on the presence in court of each of the persons who may have participated in the many steps of the DNA analysis will not secure for a criminal defendant any added benefit in actual confrontation beyond that which the defendant had when Ms. Lambatos testified. Yet petitioner's proposed rule would bar reliable evidence, and in many instances entire prosecutions, without giving a criminal defendant any true advantage in the quality of the confrontation that actually takes place in the trial court.

For the foregoing reasons, amici curiae respectfully request that the ruling of the Illinois Supreme Court be affirmed.

Date: October 26, 2011

Respectfully submitted,

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Amici Curiae

AMICUS CURIAE BRIEF

No. 10-8505

IN THE

Supreme Court of the United States

SANDY WILLIAMS,

Petitioner,

v.

PEOPLE OF THE STATE OF ILLINOIS,

Respondent.

ON WRIT OF CERTIORARI TO THE SUPREME COURT OF ILLINOIS

BRIEF OF *AMICI CURIAE* NEW YORK COUNTY DISTRICT ATTORNEY'S OFFICE AND THE NEW YORK CITY OFFICE OF THE CHIEF MEDICAL EXAMINER IN SUPPORT OF RESPONDENT

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QUESTION PRESENTED

Whether a criminal defendant's Sixth Amendment right to confront witnesses against him is satisfied where a prosecution expert testifies live at trial to her independent, expert opinions and is subject to unrestricted cross-examination.

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INTEREST OF *AMICI CURIAE*[1]

The New York County District Attorney's Office ("Manhattan DA's Office" or "Office") prosecutes crimes that occur in the borough of Manhattan and handles more than 100,000 criminal cases each year. It has a tradition of excellence and non-partisanship and has long been considered one of the nation's preeminent prosecutor's offices.

The Manhattan DA's Office has been a pioneer in the use of advanced forensic sciences, and DNA testing has become the single most important forensic tool available to it for solving, prosecuting, and preventing crime. The Office began using DNA evidence to prosecute criminal cases in 1986. Fourteen years later, the Office developed a ground-breaking initiative, the DNA Cold Case Project, through which thousands of previously-untested sexual assault evidence kits were analyzed. With the DNA profiles generated through this project, the Office has successfully prosecuted many long-dormant sexual assaults. Last year, under the leadership of District Attorney Cyrus R. Vance, the Office created the Forensic Sciences/Cold Case Unit, which is reviewing each of the 2,350 unsolved homicides committed in Manhattan over the last 30 years to determine whether those cases can be solved using state-of-the-art DNA testing. Just as importantly, the Office has used DNA testing to exonerate individuals wrongly suspected or convicted of committing crimes.

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1. Both parties have filed letters with the Court consenting to the filing of *amicus curiae* briefs in support of either or neither party. No counsel for any party authored any part of this brief, and no person or entity other than *amici* has made a monetary contribution to the preparation or submission of this brief.

The New York City Office of Chief Medical Examiner ("OCME") is part of New York City's Department of Health and Mental Hygiene. As part of its responsibilities, OCME performs autopsies on those who die in New York City from other than natural causes. Since 1990, it has also included a Department of Forensic Biology, which conducts forensic DNA testing in New York City cases. Under the direction of Dr. Charles S. Hirsch, the OCME performs standard STR genotyping, high sensitivity DNA testing, Y-chromosome STR typing, and mitochondrial DNA sequencing. Testing is applied in nearly every category of major crime: homicide and attempted homicide, sexual assault, felony assault, property crimes, and weapon possession. In 2010 alone, the OCME performed DNA testing on 46,415 pieces of evidence in 10,555 cases, and an OCME analyst testified in 463 of those cases. The OCME continues to perform DNA analysis to help identify victims of the September 11, 2001 World Trade Center attack, as well as daily cases of missing persons and unidentified human remains.

Amici have a strong interest in the development of evidentiary rules that ensure the reliability of DNA evidence used in criminal prosecutions. *Amici* are acutely concerned, however, that this Court not impose unnecessary conditions, under the auspices of the Confrontation Clause, that could limit the use of DNA analysis as a tool for convicting the guilty and exonerating the innocent.

SUMMARY OF ARGUMENT

Forensic DNA analysis brings extraordinary accuracy to identification of the guilty and exoneration of the innocent. The "all-technicians-must-testify" rule proposed by petitioner, however, would have dire consequences for the use of DNA testing in criminal cases, given that each case involves the participation of many technicians – in New York's OCME laboratory, at least 12. Nor would such a rule advance the search for the truth, especially because DNA testing is highly reliable and exceedingly unlikely to result in a wrongful conviction. Having one expert testify who has reviewed the case file and compared the DNA profiles at issue provides ample opportunity for defense counsel to expose any error or bias in the testing process. Finally, the profound, and adverse, effects of petitioner's proposed rule would reach beyond DNA testing and could make it impossible to introduce autopsy results in even the most run-of-the-mill homicide case.

ARGUMENT

I. DNA TESTING ALLOWS THE CRIMINAL JUSTICE SYSTEM TO IDENTIFY THE GUILTY AND EXONERATE THE INNOCENT

Forensic DNA analysis has revolutionized the practice of criminal law. DNA testing can bring certainty to identifications of the guilty and exonerate the innocent, some of whom have spent decades in prison. Over the past 20 years, as advances have led to more efficient and more sensitive testing methods, DNA testing has become an essential component of criminal investigations and prosecutions. DNA results that once took months can

now be obtained in a day,[2] allowing law enforcement to identify – or exclude – a suspect shortly after a crime occurs. While analysts once needed a bloodstain the size of a quarter, they can now perform reliable DNA testing on a sample that is the size of a pinhead.[3] As a result, many samples that were once too small or degraded to yield a profile can now be analyzed successfully and used to prosecute crimes that occur today, as well as ones that took place years ago.

The establishment of the Combined DNA Index System, or "CODIS," a computerized system administered by the FBI, has enabled law enforcement to link DNA profiles across jurisdictions. CODIS allows DNA profiles developed in local, state, and federal laboratories – all of which must comply with detailed quality assurance protocols — to be compared.[4] When DNA profiles from two

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2. John Buckleton, et al., *Forensic DNA Evidence Interpretation*, 6-8 (2005).

3. *Id.* at 7.

4. All forensic DNA testing laboratories that are permitted to access CODIS must be accredited and adhere to quality assurance standards promulgated by the FBI, which are appended at A22-A49, *infra*, and can be found at http://www.fbi.gov/about-us/lab/codis/qas_testlabs. Those standards govern, *inter alia*, the organization and management of the laboratory; education, training, and experience requirements for laboratory personnel; the laboratory's physical facilities and security measures; control of physical evidence; validation of testing methodologies; procedures for analyzing samples, including the reagents and controls that are used in the testing process; equipment calibration and maintenance; documentation of the process used to test each sample handled by the laboratory; technical and administrative review of every case file; proficiency testing of laboratory

crimes committed in different geographic locations match, law enforcement can connect serial crimes. CODIS also includes a databank of convicted offenders. When a crime scene profile matches a convicted offender profile, the identity of the putative perpetrator is known. By making these links, CODIS allows law enforcement officials to conduct real-time investigations more effectively and to solve cold cases that otherwise would remain dormant.

II. AN "ALL-TECHNICIANS-MUST-TESTIFY" RULE WOULD HAVE DIRE CONSEQUENCES FOR THE CRIMINAL JUSTICE SYSTEM

The benefits of forensic DNA analysis – benefits that flow to defendants as well as prosecutors – would be seriously threatened by the "all technicians must testify" rule advanced by petitioner. *See* Pet. Br. at 10-11, 15, 23. The briefs filed by several of petitioner's *amici* assume that a DNA profile is developed by only *one* analyst. *See* Br. of Innocence Network at 33 ("Lambatos's comparison of the Cellmark profile to Williams's profile does not render confrontation of *the* Cellmark analyst moot") (emphasis added); Br. of D.C. Public Defender Service et al. at 24-25 ("it is essential that the defense be afforded the opportunity to confront *the* lab analyst")(emphasis added). That assumption – which is critical to understanding how the Court's decision here will affect the use of DNA in criminal cases — is wrong.

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personnel; corrective action that addresses any discrepancies in proficiency tests and casework analysis; internal and external audits of the laboratory; environmental health and safety; and outsourcing of testing to vendor laboratories. Additionally, these procedures must be set forth in a laboratory manual. *See* A29-A30 (Standard 3.1.1).

In fact, Cellmark, like New York City's OCME, employs a process in which *many* analysts are involved in developing a DNA profile from a sample. *See People v. Johnson*, 389 Ill. App. 3d 618, 627 (2009) ("approximately 10 Cellmark analysts were involved in the laboratory work in this case"). As detailed below, in New York City, the number of technicians involved in even the most rudimentary DNA testing for a single case is more than a dozen. Requiring all of those technicians to appear in court for cross-examination would bring forensic work in the laboratory to a halt. Fewer samples would be tested, results would be delayed, and prosecutors would have to forego DNA testing in many cases where it would be dispositive of guilt or innocence.

Forensic DNA analysis involves the comparison of DNA obtained from a crime scene with DNA from a known individual (an "exemplar"). At New York City's OCME, evidence from a crime scene (including any evidence taken directly from a victim's body) and exemplars taken from a suspect are handled separately from the moment they arrive in the lab. Crime scene evidence and suspect exemplars are given different case numbers, and they are analyzed in different sections of the lab. By design, the OCME technicians involved in developing the suspect's DNA profile (his electropherogram) are generally not the same as the technicians who worked on the crime scene sample.

Not only are crime scene evidence and suspect exemplars handled separately, but the laboratory employs a "rotation system" that is designed to maintain high proficiency levels. Under this procedure, each technician performs an assigned task for a week (*e.g.*, DNA extraction)

and then rotates to a different task the next week (*e.g.*, DNA amplification).

At the OCME, the testing of each item involves five distinct stages, each of which is performed by one or more different persons. The first stage is evidence examination, in which a technician (technician 1) examines the sample for biological fluids and takes cuttings for DNA extraction. The second stage is extraction, in which a technician (technician 2) adds chemical reagents to the sample that break open the cells and free up the DNA so it is accessible for testing. The third stage is quantitation, in which a technician (technician 3) measures the amount of DNA that is present in the sample. If there is a sufficient amount of DNA, the testing proceeds to stage four, amplification, in which another technician (technician 4) uses a highly-automated process to target, tag, and copy 16 specific locations ("loci"), thereby raising them to a detectable level. The fifth stage is electrophoresis, or DNA typing, in which two more technicians (technicians 5 and 6) run the amplified DNA through machines that illuminate the tagged areas and separate, label, and display each locus. The result – an electropherogram – is a genetic DNA profile that is ready for comparison. Notably, each technician in stages one through five prepares worksheets contemporaneously with each task that is performed, which enable subsequent reviewers to verify that each step was conducted in accordance with established procedures.[5]

As noted above, each case involves the separate testing of a minimum of two different samples (a crime scene

5. A copy of forms that were completed by OCME technicians in the course of developing a DNA profile are appended at A1-A21.

sample and a suspect exemplar), and each process requires the participation of at least six different technicians. That means that each case will involve at least 12 technicians. Only at the end of these processes does an analyst, who routinely will testify in court about the case, compare the two electropherograms and prepare a report setting forth her conclusions.

More complex cases involve an even greater number of technicians. A recent homicide case helps make the point. Four evidentiary samples were tested: a right shoe stain, a ceiling sample, a wooden handle stain, and blood taken from a New York State Benefit Club Card. Because the evidentiary items arrived in the OCME laboratory at different times, 25 technicians were involved in their testing.

The OCME forensic biology laboratory now has sufficient resources that it does not send samples to other DNA laboratories for analysis, as the Illinois State Police laboratory did in *Williams*. But that was not always so. In 2000, there was a backlog of more than 17,000 untested rape kits in New York City. To address the backlog, the City entered into contracts with three private accredited laboratories – Cellmark, Bode and Genescreen, and scores of previously unidentified offenders were convicted on the basis of the DNA evidence that was produced.[6] If

6. After the September 11, 2001 attack on the World Trade Center, the OCME laboratory contracted with other accredited laboratories, including Cellmark, to assist it in identifying human remains recovered from the rubble. Based on this testing, the OCME was able to identify the remains of 1,629 people who died in the attack. *See* A. Baker, *A 9/11 Victim Is Identified by the Medical Examiner*, N.Y. Times, Aug. 23, 2011. In each of these cases, an OCME analyst made the final comparison of DNA profiles

all technicians in these cases were required to testify, the costs and logistical hurdles would make it all but impossible to prosecute them successfully.

Under New York case law, the prosecution is required to call as a witness only the analyst who has compared the electropherograms. *See People v. Brown*, 13 N.Y.3d 332 (2009). If she is unavailable, another analyst can compare the electropherograms and render his independent opinion. The prosecution is *not* required to call the numerous technicians -- 12 in our modest example, but typically more -- on whose work the testifying analyst has reasonably relied in reaching her conclusion. The juror hears one analyst's in-court opinion testimony, subject to cross-examination.

If this Court were to hold that the Confrontation Clause requires the testimony of each technician on whose work the testifying expert reasonably relied in forming her opinion, the effect on DNA testing in New York City would be catastrophic. A defendant could paralyze the OCME laboratory for several days by requiring that all of the technicians who worked on his case appear in court and testify. Worse still, in those instances in which even one of the many technicians was unavailable – a technician had died, or moved out of state, or was out on leave – the entire test would have to be redone, assuming that a sample of

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developed from the remains with known profiles of the missing. What the analyst did in *Williams* and what OCME analysts did during the backlog period – compare profiles developed at different accredited laboratories – is no different than what OCME analysts did after September 11 and what scientists do every day.

sufficient size was available for retesting.[7] Inevitably, the output of the laboratory would decline, with the untoward consequence that defendants would remain in jail longer before their cases were ready for trial.

At worst, an all-technicians-must-testify rule would force the OCME to reduce the amount of DNA testing it conducts, and force prosecutors to forego forensic DNA analysis in cases where it might be highly probative. In the absence of DNA testing, defendants might well be prosecuted solely on the basis of eyewitness testimony, the reliability of which is often questioned. *See United States v. Wade*, 388 U.S. 218, 229 (1967)("the influence of improper suggestion upon identifying witnesses probably accounts for more miscarriages of justice than another other single factor" (internal quotation and citation omitted)). Significantly, over a recent twelve-month period, nearly one in ten suspect profiles tested by the OCME for the Manhattan DA's Office resulted in an exoneration. Indeed, in a recent "pattern rape" case in Brooklyn, DNA testing exonerated 18 suspects before the nineteenth submission led to a match. No one concerned for innocent individuals suspected of serious crimes should prefer a world in which DNA testing is needlessly curtailed.[8]

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7. Since 2008, more than 40 technicians have left the OCME for other jobs, most of which were outside New York.

8. It bears noting that the laboratory to which the Illinois State Police sent the victim's rape kit for testing is one frequently used by the Innocence Project in exonerating the wrongfully convicted. *See* H. Dao and M. Taylor, *Dispatch From Dallas: Looking Inside the Lab*, Innocence Project Blog, Oct. 23, 2008, *available at* http://www.innocenceproject.org (describing "invigorating . . . tour of [Cellmark] laboratory where many of our actual tests are done").

If requiring the testimony of each technician would significantly advance the truth-seeking process, then the practical concerns advanced above would give way. But nothing could be less true. The reality is that OCME technicians perform thousands of tests each year and have no memory of any one test. If called to testify, a technician would be able to say "this is what I routinely do on those weeks in which I am assigned this task," and little more. Cross examination may be a great engine for discovery of truth, but it is unlikely to discover anything of consequence when the witness is a laboratory technician who repeatedly performs the same task on each rotation.

This reality brings to mind the words of Dean Wigmore, arguing in 1923 for what is now the business record exception to the hearsay rule:

> Suppose an offer of books representing transactions during several months in a large establishment. In the first place, the employees have in many cases changed and the former ones cannot be found; . . . in the [second] place, even if they could be ascertained, the production of the scores of employees, to attend court and identify in tedious succession the detailed items of transaction would interrupt and derange the work of the establishment, and the evidence would be obtained at a cost practically prohibitory; and finally, the memory of such persons, when summoned, would usually afford little real aid. . . . [T]hus the production on the stand of a regiment of bookkeepers, salesmen, shipping-clerks, teamsters, foremen, or other subordinate employees, should be dispensed with.

E. Morgan, et al., *The Law of Evidence* 62 (1927) (quoting 3 Wigmore, Evidence § 1530 (1923)). For similar reasons, the production to the stand of a regiment of DNA technicians whose memory would afford little real aid to the jury should not be required.

Some have suggested that the burdens described above are exaggerated because "defendants 'regularly . . . stipulate to the admission of the analysis.'" *Bullcoming v. New Mexico*, 131 S.Ct. 2705, 2718 (2011) (quoting Br. of Public Defender Service at 20). But if there were an all-technicians-must-testify rule, no competent defense attorney would stipulate until she had assured herself that all of the technicians who worked on the defendant's case were available to testify. The result would be that technicians would be paraded to court only to be sent back to the laboratory after defense counsel had counted heads. Surely, that prospect should not commend itself to this Court.

III. DNA TESTING IS HIGHLY RELIABLE

If the analyst who testifies has compared the crime scene electropherogram with the defendant's electropherogram, and is subject to cross-examination, there is virtually no chance that DNA analysis will result in a wrongful conviction. Two reasons support that conclusion. First, all forensic DNA laboratories that participate in CODIS must comply with detailed quality control standards that minimize the potential for mistakes. *See* A22-A49. Second, under discovery rules, defense counsel will have access to the extensive documentation that is prepared in the course of testing. As discussed below, that information is far more effective in elucidating a laboratory's procedures – and in revealing

the possibility for error – than the opportunity to cross-examine 12 or more technicians about their routine tasks.

Mandatory quality assurance procedures greatly reduce the risk of error and virtually ensure that the laboratory will detect and correct any error that might occur. For example, at every stage of the DNA testing process, control samples are tested alongside evidentiary samples to ensure that laboratory equipment is properly calibrated and the DNA results are reliable. Moreover, each case must go through extensive technical review before results can be released. In the OCME's laboratory, an analyst examines the notes and data generated during the multi-step process to verify that the laboratory's procedures have been followed in the case.

Although several of petitioner's *amici* point to cases where a mistake in DNA testing was made, *see* Br. of Innocence Network at 6-10; Br. of D.C. Public Defender Service et al. at 12-13, the chance of laboratory contamination producing a DNA profile from a crime scene sample that happens to match the defendant's profile is remote. Such an error could produce an inconclusive result or a false exclusion, but it would not implicate an innocent person.[9] *See, e.g., Brown*, 13 N.Y.3d at 340-41 ("Any contamination resulting from mishandling the evidence ... would not ... alter the data to form an erroneous DNA profile.").

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9. In its brief, the Innocence Network reports that Illinois "cancelled a DNA-testing contract with one of Cellmark's competitors, Bode Technology, because Bode had repeatedly failed to find semen on forensic samples." Br. of Innocence Network at 28. The failure to find semen on samples where it in fact existed is obviously not an error that could lead to the conviction of an innocent person.

Some of the *amicus* briefs raise the spectre of a rogue technician falsifying test results to convict an innocent person. *See* Br. of Innocence Network at 10; Br. of Calif. Public Defenders Ass'n et al. at 16 n.3. For a laboratory organized like the OCME's lab, that phantom cannot exist. Because it takes 12 technicians to produce the two electropherograms, no one person is in a position to falsify test results and frame a suspect. The documentation that would be needed to effect such a frame would be beyond the capabilities of anyone in any lab.

Importantly, the documentation that is available to defense counsel provides a detailed roadmap of a laboratory's procedures. Thus, in Illinois, a prosecutor who intends to introduce DNA evidence at trial must provide defense counsel with copies of the case file, which includes, *inter alia*, (i) "all reports, memoranda, notes, phone logs, contamination records, and data relating to the testing performed in the case"; (ii) any "[laboratory] data needed for full evaluation of DNA profiles produced and an opportunity to examine the originals"; (iii) "[c]opies of any records reflecting compliance with quality control guidelines or standards" (iv) proficiency testing results, educational background, curriculum vitae, and job descriptions of personnel involved in testing and analysis of the DNA evidence; and (v) "[r]eports explaining any discrepancies in the testing, observed defects or laboratory errors in the particular case, as well as the reasons for those and the effects thereof." Ill. Sup. Ct. R. 417. The Manhattan DA's Office makes much the same material available to defense counsel in its cases.

The nub of petitioner's claim, it seems, is that the testifying analyst in his case, Sandra Lambatos, could not

explain in detail the procedures of the Cellmark laboratory, where the victim's rape kit was sent. But under Illinois' discovery rule, defense counsel was entitled to receive copies of Cellmark's "laboratory procedure manuals, DNA testing protocols, [and] DNA quality assurance guidelines or standards." Ill. Sup. Ct. R. 417(b)(iv). Had Cellmark's procedures been flawed or unconventional, defense counsel could have asked Ms. Lambatos about them. Indeed, counsel could have offered the Cellmark manual into evidence had he thought it would have aided his cause. Presumably, counsel chose not to exploit what he knew about Cellmark's procedures because there was nothing to exploit.

IV. AN "ALL-TECHNICIANS-MUST-TESTIFY" RULE WOULD HAVE SERIOUS IMPLICATIONS THAT GO BEYOND DNA TESTING

The issue presented in *Williams* is not unique to DNA testing. As noted above, the OCME also performs autopsy examinations, and its examiners regularly testify in homicide cases as to the cause of death. A constitutional rule that would preclude a testifying expert from reasonably relying on information provided by others would wreak havoc in such cases. If the medical examiner who performed the autopsy died or was otherwise unavailable, a rule precluding another examiner from testifying on the basis of the autopsy results would "effectively amount to a statute of limitation on murder." *People v. Hall*, 84 A.D.3d 79, 85 (1st Dept. 2011)(permitting medical examiner who reviewed autopsy results of unavailable examiner to testify that the cause of death was a gunshot wound to the head). Moreover, even when the original examiner is available, his conclusions are often based on the work of others. For example,

it is commonplace for a testifying examiner to rely on the results of toxicology tests performed by others in reaching his conclusion as to the cause of death. In such circumstances, New York, like Illinois, does not require the prosecution to call the toxicologist to the stand. *See People v. Lovejoy*, 235 Ill. 2d 97, 144 (2009).

A well-known case underscores the burdens that would be imposed by an all-technicians-must-testify rule. A woman was charged with criminally negligent homicide for the starvation death of her son. *See* N. Bernstein, *Bronx Woman Convicted in Starving of Her Breast-Fed Son*, N.Y. Times, May 20, 1999. To establish cause of death (and exclude other causes), the OCME examiner relied upon the testing results of many different technicians at different labs: technicians from NeoGen Screening who performed metabolic testing, technicians from Bronx Lebanon Hospital who performed microbiological testing, and technicians from the OCME laboratory who performed toxicology tests. At trial, the OCME examiner was permitted to draw on all of those test results to explain how the child died.[10]

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10. In his *amicus* brief, Professor Friedman suggests that a testifying expert can rely on the work of others "without raising a Confrontation Clause problem, unless [she has] announced gratuitously that she was [seeking assistance] for prosecutorial purposes." Br. of Richard D. Friedman at 15-16. In the example above, presumably what this means is that the OCME examiner could rely on results from the NeoGen Screening (and the NeoGen technician would not need to be called as a witness) as long as the OCME examiner did not tell the NeoGen technician that the testing was for a criminal case. But is it really necessary for one expert (the OCME examiner) to hide her purpose from another (the NeoGen technician)? What if the second expert discerns that a criminal investigation is afoot – for example, by looking at the return address on an email or envelope? And is a defendant entitled

In these autopsy cases, like in DNA cases, the prosecution is obliged to call an expert witness to render her opinion and face the rigors of cross-examination. New York law does not permit an expert's report to be presented without an expert on the stand. *Cf. Melendez-Diaz v. Massachusetts*, 129 S.Ct. 2527 (2009). Nor does it permit the in-court expert merely to report the conclusion of another. *Cf. Bullcoming*, 131 S.Ct. at 2716 (Razatos did not testify to "any 'independent opinion' concerning Bullcoming's BAC"). It does, however, permit an expert to render an opinion that is based on the work of others if an expert in the field would reasonably rely on such information in forming an opinion. *Cf.* Fed. R. Evid. 703. That approach ensures that the jury will hear reliable scientific testimony without the crippling consequences that would ensue were this Court to adopt petitioner's "all-technicians-must-testify" rule.

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to a hearing to probe the second expert's knowledge? Merely to pose these questions is to appreciate that Professor Friedman's position should not be the rule.

CONCLUSION

The decision of the Supreme Court of Illinois should be affirmed.

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AMICUS CURIAE BRIEF

No. 10-8505

In the Supreme Court of the United States

SANDY WILLIAMS,

Petitioner,

v.

ILLINOIS,

Respondent.

ON WRIT OF CERTIORARI TO THE SUPREME COURT OF ILLINOIS

BRIEF OF THE STATE OF OHIO, 41 OTHER STATES, THE DISTRICT OF COLUMBIA, AND GUAM AS *AMICI CURIAE* IN SUPPORT OF RESPONDENT

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QUESTION PRESENTED

Whether the testimony of an expert witness satisfies the Confrontation Clause of the Sixth Amendment where the witness testifies to her own independent opinions, without introducing any underlying testimonial sources for their truth, and a criminal defendant has an opportunity to cross-examine the witness.

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INTRODUCTION

This Court has already made clear that criminal defendants have a right to determine the reliability of witnesses in one particular way—confrontation through cross-examination. *Crawford v. Washington*, 541 U.S. 36, 54 (2004). But the Court has yet to resolve how the rule applies to expert witnesses. Courts have divided on the question because experts are by definition unlike other witnesses: To render an opinion, expert witnesses draw on expertise derived from many sources (including statements from other experts in their field), and most, if not all, of those sources never appear in the courtroom.

Cross-examining the testifying expert has long been regarded as an effective mechanism for challenging both the expert's testimony and those underlying sources of information. See generally Tal Golan, *Laws of Men and Laws of Nature: The History of Scientific Expert Testimony in England and America* 259 (2004). And this is generally sufficient to satisfy the Sixth Amendment Confrontation Clause. No confrontation violation occurs when an expert renders an independent opinion, even if it is based on underlying testimonial sources; a defendant only has a confrontation right as to the underlying testimonial sources if the prosecution introduces that evidence for its truth at trial.

STATEMENT OF AMICI INTEREST

The Amici have a direct interest in the outcome of this appeal. This Court's decisions in *Melendez-Diaz v. Massachusetts*, 129 S. Ct. 2527 (2009) and *Bullcoming v. New Mexico*, 131 S. Ct. 2705 (2011), changed how the States present scientific evidence in a criminal trial. A State cannot introduce testimonial scientific evidence without the testimony of a live witness. See *Melendez-Diaz*, 129 S. Ct. at 2532. And if an expert's opinion is presented for its truth at trial, then a defendant has a right to confront that expert. See *Bullcoming*, 131 S. Ct. at 2710. Notwithstanding those guidelines, uncertainty remains about how the States can present scientific evidence at trial.

Petitioner and his amici have mounted a Confrontation Clause attack on expert testimony based in part on scientific testing performed by others. The States have a profound interest in this Court ensuring that they can continue to introduce the opinions of qualified scientific experts at trial without running afoul of a defendant's confrontation rights.

SUMMARY OF ARGUMENT

In-court testimony from a qualified expert who renders an independent opinion about forensic evidence—without introducing underlying testimonial sources for their truth—satisfies the Confrontation Clause as long as a defendant has the opportunity to cross-examine the expert.

The courts have never required prosecutors to introduce all sources upon which an expert relied to form her opinion. A defendant has the right to confront the source of underlying materials only if they are testimonial *and* introduced for their truth. Cross-examination of a testifying expert otherwise allows a defendant to expose any weaknesses in the expert's opinion or her underlying data, and also to question the witness's training and experience.

Moreover, even if the Court construed the Confrontation Clause to guarantee a right to confront the sources of all testimonial evidence underlying an expert's opinion, not all of these underlying sources—and not all scientific data—are testimonial. Like much material underlying expert opinions, an electropherogram and other machine-generated data are simply not testimonial evidence.

Accordingly, there is no reason to adopt the rule Williams advocates here.

ARGUMENT

A. A defendant's confrontation rights are not violated by in-court testimony from a qualified expert who renders an independent opinion about forensic evidence when the defendant has an opportunity to cross-examine the expert witness.

No confrontation violation occurs where, as here, a scientific expert testifies about her own opinions—formed after reviewing data generated by another individual—and that expert is available for cross-examination.

1. This case differs significantly from *Melendez-Diaz* and *Bullcoming*.

The key differences between this case and *Melendez-Diaz* and *Bullcoming* are straightforward. Here, a forensic expert testified live, in court, about her own independent conclusions, and was subject to cross-examination about how and why she reached those conclusions. See *People v. Williams*, 939 N.E.2d 268, 272 (Ill. 2010). Unlike *Melendez-Diaz* or *Bullcoming*, there is no question that Williams was able to confront the witness against him.

In *Melendez-Diaz*, no one testified about forensic test results that the prosecution relied on to prove that substance seized from the defendant contained cocaine. 129 S. Ct. at 2530-31. Instead, the prosecution introduced only affidavits by State employees who had tested and analyzed the substance in preparation for trial. *Id.* Because these affidavits fell within the "'core class of testimonial statements,'" the introduction of this evidence

required live witness testimony. *Id.* at 2532; see also *id.* at 2543 (Thomas, J., concurring).

In *Bullcoming*, the prosecution did present live witness testimony to accompany its forensic evidence, but the witness served merely as a conduit for *another* analyst's opinion set out in a formal lab report. The State sought to introduce a state laboratory employee's testimony about a certified laboratory report containing the raw results—and conclusions—from a blood alcohol test. 131 S. Ct. at 2709-10, 2712. But the live witness had not performed or witnessed the testing, and he offered no independent scientific opinions. *Id.* at 2710, 2716; see also *id.* at 2722 (Sotomayor, J., concurring) ("[A]side from reading a report that was introduced as an exhibit, Mr. Razatos offered no opinion about Petitioner's blood alcohol content." (internal quotation and citation omitted)). He was merely a conduit for *someone else's opinion*—the absent analyst who *had* formed conclusions and generated a report about the data. *Id.* at 2715-16. Such testimony does not satisfy the Confrontation Clause. *Id.* at 2716.

In this case, Illinois satisfied the requirements of *Melendez-Diaz* and *Bullcoming*—and, more broadly, the requirements of the Confrontation Clause. Compare *Williams*, 939 N.E.2d at 281-82, with *Melendez-Diaz*, 129 S. Ct. at 2531-32, and *Bullcoming*, 131 S. Ct. at 2717. The State did not seek to rely on formal certifications, by affidavit or otherwise. Compare *Williams*, 939 N.E.2d at 281-82, with *Bullcoming*, 131 S. Ct. at 2707; *Melendez-Diaz*, 129 S. Ct. at 2543 (Thomas, J., concurring). Rather, the State offered in-court expert testimony and the

witness was subject to cross-examination. *Williams*, 939 N.E.2d at 272. And unlike the witness in *Bullcoming*, the testifying expert here was rendering her *own independent opinion*. Compare *id.* at 271-72, 275, with *Bullcoming*, 131 S. Ct. at 2722 (Sotomayor, J., concurring).

2. The opportunity to cross-examine an expert witness who testifies to her own opinion satisfies a defendant's confrontation rights.

Admissibility of an expert's opinions has never been predicated on an opportunity to cross-examine anyone other than the witness herself. As this Court has explained, "the Confrontation Clause is generally satisfied when the defense is given a full and fair opportunity to probe and expose . . . infirmities [in an expert's testimony] through cross-examination." *Delaware v. Fensterer*, 474 U.S. 15, 22 (1985); see also *United States v. Wade*, 388 U.S. 218, 227-28 (1967) (holding, in the context of the Sixth Amendment right to counsel, that that when it comes to blood tests, "the accused has the opportunity for a meaningful confrontation . . . through the ordinary processes of cross-examination of the . . . expert witnesses").

The ability to cross-examine a testifying expert satisfies the Confrontation Clause for the same reasons that expert testimony is admissible in the first place. By definition, an expert's opinion is useful because she is able to draw on her training, her experience, and data from others in her field. As long as an expert renders an independent opinion based on these sources, there is no constitutional

problem. See, e.g., *Dura Auto. Sys. of Ind., Inc. v. CTS Corp.*, 285 F.3d 609, 612 (7th Cir. 2002).

For example, in the context of DNA testing, technicians regularly "perform largely mechanical or ministerial tasks" at the early stages of the testing process.[1] *United States v. Boyd*, 686 F. Supp. 2d 382, 384 (S.D.N.Y. 2010), affirmed 401 Fed. Appx. 565 (2d Cir.), cert denied 131 S. Ct. 1618 (2011). But a well-trained, qualified DNA analyst can identify errors that occurred when processing a DNA sample by examining the face of an electropherogram (a graph depicting DNA). *Williams*, 939 N.E.2d at 279-80.

When a defendant cross-examines a testifying expert, he can inquire both about the expert's own conclusions *and* her justifications for relying on specific information—such as the preliminary work of a lab technician—to form her opinions. See, infra, Part D.2. "The vital questions—was the lab work done properly? what do the readings mean?—can be put to the expert on the stand." *United States v.*

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[1] Even though many individuals may play a role in preparing, testing, and reviewing a single forensic sample, courts frequently refer to participants in any of these activities as "analysts." Courts also use the term "results" imprecisely to refer to machine-generated data produced by a scientific test, an analyst's conclusions and opinions about that data, or both. This imprecise language has exacerbated confusion about when scientific evidence is constitutionally admissible. See *Melendez-Diaz*, 129 S. Ct. at 2546 (Kennedy, J., dissenting) ("[T]he Court cannot define with any clarity who the analyst is."). Properly defined, a lab technician who inserts a sample into an instrument—and does nothing more—is not an "analyst." "Analyst" refers only to an individual who exercises her own judgment to evaluate scientific data and reaches her own conclusions about its meaning.

Moon, 512 F.3d 359, 362 (7th Cir. 2008) (explaining that the background data need not be presented to the jury for cross-examination to be effective). Likewise, cross-examination can reveal any other errors, omissions, lapses in memory, or gaps in an expert's knowledge, *Fensterer*, 474 U.S. at 22, thus allowing the defendant to expose any flaws in the expert's analysis or the underlying data. See David H. Kaye et al., *The New Wigmore: Expert Evidence* § 4.6.1(c) (2d ed. 2011) ("*The New Wigmore*") ("[I]f an expert does not have enough knowledge to distinguish [reliable data from unreliable] he has no business relying on it."). Ultimately, questions about the basis for an expert's opinion speak to the weight of the expert's testimony, not to its admissibility. *Fensterer*, 474 U.S. at 22.

By contrast, the Confrontation Clause may be violated where the testifying expert is merely a conduit for *someone else's* opinion. In that situation, *Bullcoming* made clear that a defendant has a right to confront the declarant who actually formed the opinion.

In short, this Court's precedents regarding expert witnesses, read together with *Melendez-Diaz* and *Bullcoming*, confirm that Williams's confrontation rights were not violated here. A defendant has the right to confront and cross-examine any witnesses against him; here, the testifying expert was that witness and Williams had that opportunity.

B. The Constitution does not guarantee defendants a right to confront the sources upon which a testifying expert bases her opinion.

Because there is no doubt that Williams had the opportunity to confront and cross-examine the expert witness who analyzed the machine-generated data and testified about her conclusions at trial, the only remaining question is whether the Sixth Amendment also guarantees Williams an opportunity to confront the individuals who helped generate that underlying data. It does not.

1. Experts have long testified to opinions formed after considering otherwise inadmissible materials.

This Court has never recognized a constitutional right to confront the underlying source of material that an expert witness considers before forming an opinion. See *Bullcoming*, 131 S. Ct. at 2722 (Sotomayor, J., concurring); see also *Fensterer*, 474 U.S. at 19-20 (no confrontation violation when testifying expert cannot remember what materials were relied on to form an opinion).

Accordingly, courts have long permitted experts to *rely* on hearsay—even though hearsay itself is not otherwise admissible. See John Henry Wigmore, A Pocket Code of the Rules of Evidence in Trials at Law § 408, at 118 (1910) (expert allowed to rely on hearsay when "using the reported data of fellow scientists"); *Spiller v. Atchison, T. & S.F.R. Co.*, 253 U.S. 117, 130 (1920) (witness's testimony based on hearsay was accepted "very much as the testimony of an expert witness might have been

accepted"); see also *Daubert v. Merrell Dow Pharms.*, 509 U.S. 579, 592 (1993) ("[A]n expert is permitted wide latitude to offer opinions, *including those that are not based on firsthand knowledge or observation.*" (emphasis added)).

For example, experts have long been allowed to rely on hearsay for opining on medical (particularly psychiatric) diagnoses or about property valuation. See e.g., *Birdsell v. United States*, 346 F.2d 775, 779 (5th Cir. 1965) (medical diagnosis); *Fitts v. United States*, 328 F.2d 844, 847 (10th Cir. 1964) (same); *Jenkins v. United States*, 307 F.2d 637, 641 (D.C. Cir. 1962) (same); *Nat'l Bank of Commerce v. New Bedford*, 56 N.E. 288, 290 (Mass. 1900) ("An expert may testify to [property] value although his knowledge of details is chiefly derived from inadmissible sources, because he gives the sanction of his general experience. But the fact that an expert may use hearsay as a ground of opinion does not make the hearsay admissible."); *United States v. Williams*, 447 F.2d 1285, 1289-92 (5th Cir. 1971) (property valuation); *H. & H. Supply Co. v. United States*, 194 F.2d 553, 555-56 (10th Cir. 1952) (same); *United States v. 5139.5 Acres of Land*, etc., 200 F.2d 659, 662 (4th Cir. 1952) (same).

Since 1975, experts of all stripes have been allowed to rely on hearsay. The Federal Rules of Evidence (and analogous state evidentiary rules) authorize "expert opinions based on otherwise inadmissible hearsay" as long as the facts or data relied on meet the additional requirements of that rule. *Daubert*, 509 U.S. at 595; see also *United States v. Gresham*, 118 F.3d 258, 266 (5th Cir. 1997) ("[I]t is axiomatic that expert opinions may be based

on facts or data of a type reasonably relied upon by experts in a particular field, even if the sources are not admissible evidence."). Accordingly, scientific experts may rely on data generated by other scientists to form their opinions, even if the data itself would constitute hearsay.

2. *Crawford* and its progeny did not invalidate the rules for expert testimony or the permissible bases for expert opinions.

Crawford altered the manner in which hearsay evidence itself is evaluated under the Confrontation Clause, but it did not change the laws or rules governing expert witness testimony. Indeed, *Crawford* makes no mention of experts, see generally 541 U.S. 36, and the Court has not subsequently restricted the material experts may rely on. See *United States v. Winston*, 372 Fed. Appx. 17, 19-20 (11th Cir. 2010) ("Although *Melendez-Diaz* discusses when a forensic opinion may be admitted into evidence, [it does not] . . . address[] whether an expert witness's testimony that is based on a forensic opinion prepared by a non-testifying expert, in addition to other evidence, violates a defendant's right to confrontation."); see also *United States v. McGhee*, 627 F.3d 454, 460 (1st Cir. 2010) (in part, distinguishing *Melendez-Diaz* because it did not preclude experts from relying on data generated by other experts).

In the wake of *Crawford*, many courts have held that the Confrontation Clause is satisfied when experts offer opinions based on hearsay evidence, as long as the underlying hearsay is not introduced for its truth. See, e.g., *United States v. Turner*, 591 F.3d

928, 933 (7th Cir. 2010); *United States v. Henry*, 472 F.3d 910, 914 (D.C. Cir. 2007); *United States v. Mirabal*, No. 09-3207, 2010 U.S. Dist. Lexis 91595, *20-22 (D.N.M. Aug. 7, 2010); *Commonwealth v. Avila*, 912 N.E.2d 1014, 1029 (Mass. 2009); *Wood v. State*, 299 S.W.3d 200, 213 (Tex. App. Ct. 2009) ("[T]he Confrontation Clause is not violated merely because an expert bases an opinion on inadmissible testimonial hearsay. The testifying expert's opinion is not hearsay, and the testifying expert is available for cross-examination regarding his opinion."); see generally *The New Wigmore* § 4.10.2. These opinions harmonize the Confrontation Clause and the rules of expert testimony, explaining that "*Crawford* forbids the introduction of testimonial hearsay as evidence in itself, but it in no way prevents expert witnesses from offering their independent judgments merely because those judgments were in some part informed by their exposure to otherwise inadmissible evidence." *United States v. Johnson*, 587 F.3d 625, 635 (4th Cir. 2009). Under *Crawford*, "the question . . . is whether the expert "'applied his expertise to [testimonial] statements but did not directly convey the substance of the statements to the jury.'" *United States v. Mejia*, 545 F.3d 179, 198 (2d Cir. 2008) (quoting *United States v. Lombardozzi*, 491 F.3d 61, 73 (2d Cir. 2007)).

In this case, the State did not introduce any of the underlying hearsay evidence at trial. *Williams*, 939 N.E.2d at 272 (expert "testified to her conclusion informed by Cellmark's report, Cellmark's report itself was not introduced into evidence"). Nor did the testifying expert communicate the substance of anyone else's conclusions. See *id.* at 279 (expert only "testified to her conclusion based upon her own

subjective judgment about the comparison of the Cellmark report with the existing . . . profile" in the Illinois State Patrol database, which contains thousands of DNA profiles generated by others).[2] The facts of this case conform to well-settled law governing the permissible basis for expert opinion: A testifying expert may rely on data prepared by others, but she must offer her own independent opinion of that data.

C. Even if the Confrontation Clause guaranteed the right to confront the underlying sources of testimonial evidence upon which an expert opinion is based, electropherograms are not testimonial.

Even if the Court finds a constitutional right to confront the underlying sources of testimonial evidence upon which an expert opinion is based, the electropherograms at issue in this case, like most machine-generated data, are not testimonial.

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[2] At least one of Williams's Amici suggests that the prosecution's expert *did* testify about conclusions reached by others. See Friedman Amicus Br. at 12 n.6. In fact, the expert's *only* statements about what Cellmark employees did were elicited by the defense on cross-examination and do not implicate the Confrontation Clause. See *Diaz v. United States*, 223 U.S. 442, 452-53 (1912) (where the accused placed testimony in evidence, "he waived his right of confrontation as to that testimony and cannot now complain of its consideration").

Contrary to the Amici's suggestion, the expert here repeatedly testified that she performed her own analysis and that her approach differed from Cellmark's. See Joint Appendix ("J.A.") at 62, 81, 83-85. She also expressly disclaimed reliance on Cellmark's conclusions. *Id.* at 84.

Melendez-Diaz and *Bullcoming* recognize that many aspects of the forensic process are nontestimonial, *Melendez-Diaz*, 129 S. Ct. at 2532 n.1; *Bullcoming*, 131 S. Ct. at 2721 n.2 (Sotomayor, J., concurring). But the Court has not specifically described the line between testimonial and non-testimonial scientific evidence. The Court should use this case to decide "whether . . . a State could introduce (assuming an adequate chain of custody foundation) raw data generated by a machine in conjunction with the testimony of an expert witness." *Bullcoming*, 131 S. Ct. at 2722 (Sotomayor, J., concurring). And it should rule that such "raw data"—here, a machine-generated electropherogram—is not testimonial.

It is beyond dispute that not all scientific evidence is testimonial. On one end of the spectrum, blood pumping through an individual's veins is non-testimonial. And, on the other end of the spectrum, a formal forensic lab report analyzing a blood sample and opining about its source are clearly testimonial. But where is the line between nontestimonial physical or scientific evidence and testimonial analysis of that evidence? The Court should draw that line here as follows: An electropherogram is nontestimonial, but an expert's *interpretation* of that electropherogram is testimonial.

An electropherogram is a visual representation of physical blood evidence—it puts a blood sample into a form that an expert can interpret. The process by which that occurs is a mechanical one. The machine's output reflects the current condition of a sample; someone has to interpret that data to link it to a particular

individual or a particular set of facts. See *United States v. Washington*, 498 F.3d 225, 232 (4th Cir. 2007) (expert testimony necessary to link machine-generated data to defendant). An electropherogram then is nothing more than a nontestimonial product of a mechanical process. See *United States v. Darden*, 656 F. Supp. 2d 560, 563 (D. Md. 2009) (only information relied on by the testifying expert to determine blood alcohol level was "printed data generated by the testing machines"); *People v. Brown*, 918 N.E.2d 927, 931 (N.Y. 2009) (machine-generated graphs, charts and numerical data not testimonial). The lab technician who operates a machine that generates an electropherogram is not in any privileged position to interpret the data. *Washington*, 498 F.3d at 230 (same interpretation of machine-generated data would be required for a lab technician or an expert to opine about whether drugs were present in a blood sample). Sometimes a lab analyst will interpret the data and memorialize it in a report. But an independent expert could also look at the machine-generated data, interpret it, and offer an opinion about it.

Without an expert's specialized skill and knowledge, much scientific data would mean little to a trier of fact. And that is especially true in the context of DNA analysis. Before a DNA sample is analyzed, it undergoes a process called electrophoresis. During this process, a sample is exposed to an electrical field that separates out DNA fragments. *Williams*, 939 N.E.2d at 271. The end result is an electropherogram, a document resembling a line graph, with peaks representing the lengths of the DNA strands at 13 specific locations. *Id.* A DNA analyst then reviews the

electropherogram and prepares a report interpreting the machine-generated data.

Accordingly, when the prosecution relies on DNA-based identification at a criminal trial, the relevant question is not what is *on* the graph, but what the graph *means*. "[T]he mere fact that the characteristics of certain alleles of a defendant's DNA matches the characteristics of alleles of DNA found at a crime scene says almost nothing about the likelihood that the defendant was present at the crime scene unless the jury learn from an expert about the nature of the DNA profile used." *Commonwealth v. Barbosa*, 933 N.E.2d 93, 109 (Mass. 2010); *Moon*, 512 F.3d at 362 (question of what a machine's readings mean can be put to an expert on the stand). Absent the value added by an *interpretation* of machine-generated data—that is, an expert's opinion—an electropherogram is meaningless to all but the mostly highly trained judges and jurors.

Concluding that an electropherogram—unadorned, machine-generated data—is nontestimonial, is also consistent with earlier holdings about the human body as a source of evidence. In the context of analyzing the Fifth Amendment's prohibition of self-incriminating testimony, the Court has classified blood, and blood test evidence, as physical (not testimonial) evidence.[3]

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[3] *Fellers v. United States*, 540 U.S. 519, 523-25 (2004), distinguished the scope of the Sixth Amendment right to counsel and the Fifth Amendment prohibition on compelled incrimination, but it did not decide whether testimony, and testimonial statements, should be similarly construed in these contexts.

In *Schmerber v. California*, 384 U.S. 757, 765 (1966), the Court held that "blood test evidence, although an incriminating product of compulsion, was neither petitioner's testimony nor evidence relating to some communicative act or writing by the petitioner." See also *Gilbert v. California*, 388 U.S. 263, 267 (1967) (stating that the "body itself" is an identifying physical characteristic outside the Fifth Amendment's protection); *Holt v. United States*, 218 U.S. 245, 252-53 (1910) (Fifth Amendment "is a prohibition of the use of physical or moral compulsion to extort communications from [a defendant]" and "not an exclusion of his body as evidence when it may be material").

Relying on *Schmerber*, lower courts have unanimously held that the "[t]he extraction of DNA doesn't implicate the privilege against self-incrimination because DNA samples are 'physical' evidence, not 'testimonial' evidence." *Wilson v. Collins*, 517 F.3d 421, 431 (6th Cir. 2008) (quoting *United States v. Zimmerman*, 514 F.3d 851, 855 (9th Cir. 2007)); see also *Boroian v. Mueller*, 616 F.3d 60, 67-68 (1st Cir. 2010); *Kaemmerling v. Lappin*, 553 F.3d 669, 685-86 (D.C. Cir. 2008); *United States v. Hook*, 471 F.3d 766, 773-74 (7th Cir. 2006); *Boling v. Romer*, 101 F.3d 1336, 1340 (10th Cir. 1996); *United State v. Appleby*, 221 P.3d 525, 551-52 (Kan. 2009). And because an electropherogram is nothing more than a graphic representation—generated by a machine—of that DNA sample, the same reasoning should extend to the treatment of electropherograms under the Confrontation Clause.

Because it is nontestimonial, any questions about the validity of an electropherogram go to

weight, not admissibility. See *United States v. Rodriguez*, 409 Fed. Appx. 866, 870-71 (6th Cir. 2011) (unpublished) (allowing fingerprint expert to offer an opinion about identity, even though he never examined the source of the original fingerprint), *cert. denied*, 180 L. Ed. 2d 259; see also *United States v. Lauder*, 409 F.3d 1254, 1262-66 (10th Cir. 2005) (same); *State v. Anderson*, 687 S.E.2d 35, 38-41 (S.C. 2009) (same); *State v. Foreman*, 954 A.2d 135, 161-62 (Conn. 2008) (same). As long as there is an "adequate chain of custody foundation,"[4] the

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[4] Prosecutors have considerable discretion "to decide what steps in the chain of custody are so crucial as to require evidence; but what testimony *is* introduced must (if the defendant objects) be introduced live." *Melendez-Diaz*, 129 S. Ct. at 2532 n.1. Although the underlying electropherograms were not introduced in this case, the prosecution introduced chain of custody evidence to support the expert's reliance on the data.

In live testimony, the expert explained that the Illinois state crime lab regularly sends evidence samples to Cellmark, an out-of-state lab. J.A. 49. She further testified that, in keeping with normal lab practices, the samples were sent and returned in sealed condition via Federal Express, and the state lab kept records of the shipping manifests. J.A. 50-51.

The prosecution also introduced the relevant shipping manifests at trial. The fact that the manifests were not introduced through live testimony does not pose a confrontation problem because, even though they were offered to prove chain of custody, they did not provide prima facie evidence against Williams and they are not within the "'core class of testimonial statements.'" *Melendez-Diaz*, 129 S. Ct. at 2532. In short, shipping manifests are akin to "documents prepared in the regular course of equipment maintenance," *id.* at n. 1, and can be introduced without live testimony.

Although there were gaps in the prosecutor's chain of custody evidence, this goes to the weight of the evidence, not its

prosecution can introduce electropherograms as "raw data generated by a machine in conjunction with the testimony of [its] expert witness." *Bullcoming*, 131 S. Ct. at 2722 (Sotomayor, J., concurring).

D. Existing evidentiary mechanisms—including cross-examination of a testifying expert—effectively address any concerns about science in the courts.

In spite of the above analysis, Williams urges the Court to extend the Confrontation Clause because forensic science "is not immune from distortion and manipulation." Williams Br. at 30. It is true, forensic science can sometimes be "an imperfect and human endeavor," *United States v. Bonner*, 648 F.3d 209, 215 (4th Cir. 2011). But courts already have the tools for addressing these concerns. See *The New Wigmore* at xxi (expert's methodology is "subject to the trial judge's scrutiny and exclusion," "[t]he range of evidence on which

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admissibility. *Id.* To establish a chain of custody, a prosecutor "need only prove a rational basis from which to conclude that the evidence is what the party claims it to be." *United States v. Rawlins*, 606 F.3d 73, 82 (3d Cir. 2010) (internal quotations omitted); see also *United States v. Mejia*, 597 F.3d 1329, 1336 (D.C. Cir. 2010) ("[T]he standard of proof requires only evidence from which the trier could reasonably believe that an item still is what the proponent claims it to be" (quoting Kenneth S. Broun et al., 2 *McCormick on Evidence* § 213 (6th ed. 2009).). Finally, there is a presumption that the officials had custody of the evidence discharged their duties properly. See *United States v. Prieto*, 549 F.3d 513, 524 (7th Cir. 2008). Because the State's chain of custody evidence would have been adequate to introduce the electropherograms themselves into evidence, it was also sufficient to support the expert's reliance on the electropherograms.

experts may rely is not unlimited," and "[c]ertain types of opinions . . . are out of bounds").

1. Trial courts are effective gatekeepers of scientific evidence.

Beginning in 1975, American courts broadly authorized expert reliance on hearsay evidence, *Daubert*, 509 U.S. at 588, while simultaneously enhancing the trial judge's role as a gatekeeper of science in the courtroom. See Fed. R. Evid. 702 & 703; see also 29 Wright & Gold, Federal Practice and Procedure: Evidence § 6261 (1997) ("Most state versions of Rule 702 are identical to the federal provision"; describing state counterparts); *id.* § 6271 ("Most state versions of Rule 703 are identical to the federal provision"; describing state counterparts).

Federal Evidence Rule 702 and its state counterparts permit expert testimony if the expert's "scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue." See also Fed. R. Evid. 702 advisory committee's note (1975) ("An intelligent evaluation of facts is often difficult or impossible without the application of some scientific, technical, or other specialized knowledge."); *Daubert*, 509 U.S. at 592 (experts possess specialized "scientific knowledge that . . . will assist the trier of fact to understand or determine a fact in issue").

Federal Evidence Rule 703 then identifies the proper "bases of opinion testimony by experts," including "facts or data . . . perceived by or made known to the expert at or before the hearing." As long as those facts or data are "of a type reasonably relied upon by experts in the particular field in

forming opinions or inferences upon the subject, [they] need not be admissible in evidence." *Id.*; see also Fed. R. Evid. 705 (allowing an expert to testify to her opinion "without first testifying to the underlying facts or data"). In short, experts have "wide latitude to offer opinions, including those that are not based on firsthand knowledge or observation." *Daubert*, 509 U.S. at 592

Even as these rules confirmed that expert testimony could be based on otherwise inadmissible evidence, they also enhanced trial judges' gatekeeping responsibilities. See *Kuhmo Tire Co. v. Carmichael*, 526 U.S. 137, 152 (1999) (discussing "*Daubert*'s gatekeeping requirement"); *Daubert*, 509 U.S. at 597; see also *Golan*, *supra*, at 263 ("[T]he twentieth-century trial judge became an active gatekeeper.").

For instance, a trial judge cannot admit expert testimony unless the expert satisfies the threshold requirements of Rule 702. First, the evidence must be relevant, meaning that it "will assist the trier of fact to understand the evidence or to determine a fact in issue." Fed. R. Evid. 702. Second, the witness must be "qualified as an expert by knowledge, skill, experience, training, or education." *Id.* Finally, the court must evaluate the expert's evidence with an eye toward three factors: whether "(1) the testimony is based upon sufficient facts or data, (2) the testimony is the product of reliable principles and methods, and (3) the witness has applied the principles and methods reliably to the facts of the case." *Id.*; see also *Daubert*, 509 U.S. at 593-94 (directing courts to consider factors like testing, peer review, error rates, and acceptability in the relevant

scientific community); *Frye v. United States*, 293 F. 1013 (D.C. Cir. 1923) (admitting expert opinions based on scientific technique only if the technique has been generally accepted as reliable in the scientific community).[5]

In practice, this means that courts regularly conduct *Daubert* (or *Frye*) hearings to determine whether an expert's testimony is admissible. See Weinstein's *Federal Evidence* § 702.02[2] (2d. ed. 2011) ("The admissibility of expert testimony is often decided after a separate hearing."). These hearings can be lengthy and involved, see, e.g., *United States v. Mitchell*, 365 F.3d 215, 222 (3d Cir. 2004), and they provide ample opportunity for a defendant to challenge either an expert's qualifications or the basis for her opinion before that expert's testimony is admitted.

Trial courts also have to decide whether the facts and data relied upon to form an opinion are "of a type reasonably relied upon by experts in the particular field."[6] Fed. R. Evid. 703. Courts

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[5] Although most States apply the *Daubert* test (and the Federal Rules of Evidence incorporate this standard), a handful of States continue to apply the *Frye* standard.

[6] Rule 703 also contemplates that experts themselves provide an additional check against untrustworthy scientific evidence. If an expert is qualified under Rule 702, the Rules presume that she knows what sort of evidence is sufficiently trustworthy to use as a basis for her opinion: The expert is "assumed to have the skill to properly evaluate the hearsay, giving it probative force appropriate to the circumstances." *United States v. Locascio*, 6 F.3d 924, 938 (2d Cir. 1993) (internal quotation omitted); see also *United States v. Dukagjini*, 326 F.3d 45, 57 (2d Cir. 2002).

routinely evaluate forensic data for error, confusion, or contamination. See, e.g., *United States v. McFadden*, 458 F.2d 440, 441 (6th Cir. 1972) ("[P]hysical evidence is admissible where the possibilities of misidentification or alteration are 'eliminated, not absolutely, but as a matter of reasonable probability'" (quoting *Gass v. United States*, 416 F.2d 767, 770 (D.C. Cir. 1969)); see also Fed. R. Evid. 901; *United States v. Mendel*, 746 F.2d 155, 166-67 (2d Cir. 1984); *United States v. Patterson*, 277 F.3d 709, 713 (4th Cir. 2002) (fingerprints admissible because "[a]n adequate foundation was provided . . . by 'internal patterns[] or other distinctive characteristics, taken in conjunction with circumstances." Fed. R. Evid. 901(b)(4)"); *Lauder*, 409 F.3d at 1264-65 (same); *United States v. Garcia*, 452 F.3d 36, 41 (1st Cir. 2006) (fingerprint card admissible because there was "sufficient evidence before the district court to warrant a reasonable person in believing that [the exhibit] was what it purported to be"). If a court finds substantial inaccuracies in the underlying facts and data, an expert's entire opinion may be inadmissible. Weinstein's *Federal Evidence* § 703.05[1] (noting that if inaccuracies are not substantial, an expert may testify and the defendant can identify those weaknesses at trial).

Even after these threshold determinations, the trial court continues to actively manage expert witnesses and the introduction of scientific evidence at trial.

During a trial, a court may be called on to determine whether testimony is within the scope of a witness' expertise, rule on defense objections, and

determine whether or not to admit otherwise inadmissible facts and data to show the basis for the expert's opinion. See Fed. R. Evid. 703 (requiring courts to determine whether the probative value of evidence exceeds its prejudicial effect, as under Rule 403); Fed. R. Evid. 705 (permitting disclosure of underlying data either before or after an expert testifies). If the court does admit underlying hearsay, it may need to provide a limiting instruction, directing the jury to consider the evidence only for the purpose of determining the weight of the expert's opinion. See Fed. R. Evid. 703 advisory committee's note (2000) (noting that the court must give an appropriate limiting instruction upon request).

2. Cross-examination of a testifying expert also provides effective checks on scientific evidence.

In addition to the trial courts' gatekeeping functions, a scientific expert is still subject to scrutiny even after the court decides to allow her testimony. This happens chiefly through the adversarial process. "Vigorous cross-examination, presentation of contrary evidence, and careful instruction on the burden of proof are the traditional and appropriate means of attacking shaky but admissible evidence." *Daubert*, 509 U.S. at 596. "These conventional devices . . . are the appropriate safeguards" for scientific testimony that passes Rule 702. *Id.*

Cross-examination of a testifying expert means that the defendant is able to "probe and expose [any] infirmities" in an expert's testimony. *Fensterer*, 474 U.S. at 22.

First, the defendant can point to any deficiencies with the witness, highlighting any gaps in the expert's experience or the expert's reliance on data outside her direct personal knowledge. For example, a defendant could expose that an expert's opinion is derived from the results of testing that she did not conduct or observe. Cf., *e.g.*, *Williams*, 447 F.2d at 1289-90 (describing "intens[e]" cross-examination of expert in property valuation focused on probing the authenticity and accuracy of the sources on which he relied). In this way, defendants have "the opportunity to test the experts' 'honesty, proficiency, and methodology' through cross-examination." *Johnson*, 587 F.3d at 635 (quoting *Melendez-Diaz*, 129 S. Ct. at 2538).

Second, the defendant can use cross-examination to poke holes in the information upon which the expert relied. Discovery rules, along with the prosecution's constitutional obligations under *Brady v. Maryland*, 373 U.S. 83 (1963), ensure that defendants have access to this information before trial, giving them an opportunity to adopt a strategy for attacking the underlying data. See Weinstein's *Federal Evidence* § 703.05[1]. The defense can highlight any weaknesses in those underlying facts and assumptions even without introducing the data. See, e.g., *Appleby*, 221 P.3d at 552 ("These experts were available for cross-examination and their opinions could be tested by inquiry into their knowledge or lack of knowledge regarding the data that formed the basis for their opinion."); *Stecyk v. Bell Helicopter Textron, Inc.*, 295 F.3d 408, 414 (3d Cir. 2002) (explaining that the rules of evidence expressly "place[] the burden of exploring the facts and assumptions underlying the testimony of an

expert witness on opposing counsel during cross-examination").

Third, if the prosecution has not already introduced the underlying evidence, the defendant can seek to undermine an expert's testimony by introducing that information. See Fed. R. Evid. 705 ("The expert may in any event be required to disclose the underlying facts or data on cross-examination."). In this way, a defendant can call into question not only the expert's final opinions, but the very bases for them.

Fourth, the defendant can introduce his own expert to testify about the same information as the prosecution's expert. Opposing experts regularly consider the same materials and offer different conclusions to the jury. It is then up to the jury to evaluate their competing opinions.

Ultimately, concerns about scientific testimony boil down to issues of credibility and weight, both of which are factual determinations left to the jury. See *Watts v. Thomas*, No. 1:09CV206, 2009 U.S. Dist. Lexis 88258, *15 (M.D. N.C. 2009) (arguments that an expert's opinions are based upon work that was "incorrect, invalid, unsupported, etc." "go to the weight of [the expert's] testimony, not its admissibility under the Confrontation Clause"); see also *Fensterer*, 474 U.S. at 21-22, *Locascio*, 6 F.3d at 938; *Dukagjini*, 326 F.3d at 57. Aided by the usual elements of the adversarial process, jurors can be trusted to weed out "absurd and irrational" expert claims. *Daubert*, 509 U.S. at 595.

Taken together, these tools show that cross-examining a testifying expert is an effective check on

scientific evidence and scientific experts in the courtroom.

CONCLUSION

For the foregoing reasons, the Court should affirm the Illinois Supreme Court's decision.

Respectfully submitted,

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v.

PEOPLE OF THE STATE OF ILLINOIS,
Respondent.

On Writ of Certiorari to the
Supreme Court of Illinois

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INTEREST OF *AMICI* [1]

Amicus Curiae Public Defender Service for the District of Columbia (PDS) represents indigent criminal defendants in the District of Columbia. *Amicus Curiae* the National Association of Criminal Defense Lawyers (NACDL) is a non-profit corporation with a membership of more than 10,000 attorneys nationwide, along with 78 state and local affiliate organizations in 50 states.

Attorneys employed by or affiliated with *amici* regularly represent clients where the prosecution seeks to use a perpetrator's DNA profile that has been developed from an evidentiary sample as inculpatory evidence. Agreement or a match between a perpetrator profile and a defendant's known profile may be decisive in a case; indeed it may be the only link between the defendant and the charged crime. In *amici's* view, it is critical to the truth-seeking function of a trial to allow the defendant to confront not only the prosecution expert who declares a match between the reported perpetrator profile and the defendant's known profile, but also the lab analyst who actually developed the perpetrator profile.[2]

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[1] Both parties have filed letters with the Court consenting to the filing of amicus curiae briefs in support of either or neither party. No counsel for any party authored any part of this brief, and no person or entity, other than *amici*, has made a monetary contribution to the preparation or submission of this brief.

[2] Throughout this brief *amici* use the term "lab analyst" to refer to the person who does the casework to isolate biologic material recovered in a criminal investigation and to develop a DNA profile of a perpetrator therefrom. *Amici* use the term "prosecution expert" to refer to any person who compares an already-developed perpetrator profile to a known profile of a suspect and draws conclusions based on that comparison (*e.g.*,

SUMMARY OF ARGUMENT

Petitioner has explained why the Confrontation Clause was violated when the prosecution presented testimonial evidence essential to its case – a deduced perpetrator profile – through expert testimony, where the expert had not conducted or observed any of the lab work conveyed in that testimonial evidence. *Amici* write to explain why the Court should care.

There are several reasons why it would not be an "empty formalism" to reaffirm a defendant's right to confront a lab analyst who knows how the DNA typing conveyed to the fact-finder was actually done. First, forensic DNA typing is a complicated process that requires a number of steps involving both skill and judgment. Second and relatedly, DNA analysts are not infallible. They make mistakes. They contaminate samples. They sometimes even commit fraud. Third, the defendant's opportunity to confront the prosecution expert by no means obviates confrontation of the lab analyst. With only the prosecution expert as a testifying witness, the defendant cannot probe (1) *who* the lab analyst *is*; (2) *how*, according to protocol, she should have developed the perpetrator profile; or (3) what actually happened in the course of the DNA typing. In short, confrontation of the lab analyst who deduces a perpetrator profile is essential to the truth-seeking function of a criminal trial in which the prosecution seeks to incriminate a defendant using DNA evidence.

There is no substitute mechanism to guarantee the reliability and validity of this evidence. In particular,

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that a suspect cannot be excluded as the contributor of DNA from a particular item of evidence, or the likelihood that a randomly selected person similarly would not be excluded).

the Court should not be swayed to exempt from confrontation lab analysts who do forensic DNA typing simply because the laboratories that employ them are accredited. Accreditation is a potentially valuable oversight tool, but the accreditation system for forensic labs in the United States has its own deficiencies, and it has not prevented errors in individual cases.

ARGUMENT

I. CONFRONTATION OF THE DNA LAB ANALYST WHO DEVELOPED A PERPETRATOR PROFILE FROM AN EVIDENTIARY SAMPLE WOULD NOT BE AN EMPTY FORMALISM.

This Court has made clear that a defendant has the right to confront the declarant of a testimonial statement regardless of any assurances of the reliability of proffered scientific information or the opportunity to cross-examine a surrogate witness. *Bullcoming v. New Mexico*, 131 S. Ct. 2705, 2715-16 (2011); *Melendez-Diaz v. Massachusetts*, 129 S. Ct. 2527, 2536 (2009). *Amici* can nonetheless reassure the Court that confrontation of a lab analyst who developed and reported a perpetrator DNA profile would not be an "empty formalism," either because her testimonial statement concerned DNA, or because the prosecution presented an expert to testify about a match to the defendant. *Id.* at 2537 n.6. An overview of what a lab analyst must do to develop and report out a perpetrator profile makes this clear.

A. Developing a DNA profile of a perpetrator from biologic evidence collected in a criminal investigation is a complicated process that requires a number of steps involving skill and judgment.

A lab analyst must take a number of steps to transform a mixture of biologic material collected in a criminal investigation into a DNA profile that can be used as the basis for identifying a perpetrator. A lab analyst begins the process by breaking the recovered cells open and extracting the genetic material from the nuclei.[3] John M. Butler, *Fundamentals of Forensic DNA Typing*, 7, 99-108 (2010) [hereinafter *Fundamentals of Forensic DNA Typing*].[4] Where, as here, an evidentiary sample submitted to the lab may contain both sperm and non-sperm (or epithelial) cells, an analyst will attempt at the extraction stage

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[3] A number of types of forensic DNA analysis have been developed (*e.g.*, Y-STR testing, which involves analyzing segments of DNA on the Y chromosome, and mtDNA testing, which involves examining DNA from the mitochondria, cellular bodies found outside the nucleus), and within each of these broad categories, a variety of methodologies have arisen that seek to exploit certain properties of our genetic material, with newer and better methods always on the horizon. *Amici* describe here only the type of DNA testing apparently performed in this case – the creation a 13-locus profile of nuclear DNA.

[4] *Amici* rely heavily on Dr. Butler's "canonical text," *District Attorney's Office for Third Judicial Dist. v. Osborne*, 129 S. Ct. 2308, 2327 (2009) (Alito, J., concurring) (quoting Erin Murphy, *The Art in the Science of DNA: A Layperson's Guide to the Subjectivity Inherent in Forensic DNA Typing*, 58 Emory L.J. 489, 493 n. 16 (2008)). Dr. Butler's text has now been divided into two volumes, *Fundamentals of Forensic DNA Typing*, and the forthcoming *Advanced Topics in Forensic DNA Typing*. *Fundamentals of Forensic DNA Typing*, at ix.

to separate this biologic material into different test tubes in hopes of separating the male and female DNA. *Id.* at 105-06. But the analyst's efforts, called "differential extraction," may not be completely successful, resulting in a mixture of DNA contributed by (at least) two people, the victim and her assailant. *Id.* Even a successful differential extraction can result in a mixture of DNA if sperm or epithelial cells from more than one person are present. When there are mixtures of DNA, it may not be "clear whose profile is whose, or even how many profiles are in the sample at all." Murphy, 58 Emory L.J. at 497; *see* pp. 9-10 *infra*.

After the DNA is extracted, it is quantified. *Fundamentals of Forensic DNA Typing* at 111-21. A lab analyst uses the quantitation information to determine whether the DNA sample needs to be concentrated or diluted. *Id.* Bringing the DNA to the proper concentration is an inexact procedure that may require more than one attempt, but is critical for the next step of DNA typing – amplification. *Id.* at 111-12, 117, 121.

"DNA from crime scenes is often limited in both quantity and quality," and typically, there is too little good quality DNA to analyze without additional processing. *Id.* at 125; *see also id.* at 315. Thus, before the analyst can develop a perpetrator profile, she must copy or "amplify" the often minute amounts of extracted DNA. *Id.* at 125.

An analyst amplifies the DNA sample using a technique called Polymerase Chain Reaction, or PCR. *Id.* at 125-42. Using one of a number of commercial kits available, an analyst only copies distinctive fragments of the DNA molecule; these are composed of repeating patterns called Short Tandem Repeats or

STRs. *Id.* at 147-68. Standard forensic practice is to copy 13 STR locations (or loci) along with an indicator of sex. *Id.* at 154-57, 166.[5] Once the DNA at each locus is copied and detected (*see infra*), its size is used to deduce the number of repeats present and corresponding numeric values, called alleles, are assigned. *Id.* at 152-54, 205, 207-11, 214. Since genetic material is obtained from each parent, humans typically have two allele types at each of the observed loci. *Id.* at 25

Amplification by PCR is often described as "xeroxing" DNA. *Id.* at 125-26. But xeroxing is too simple an analogy, because the copying process by PCR is not perfect. PCR splits apart the strands of the DNA molecule and allows separated strands to join with materials that the analyst has added into the mix. *Id.* at 126. This creates duplicate strands of DNA at the targeted locations that are then again split apart and copied in the same manner. The separation and replication of DNA is achieved using a thermal cycler which runs the DNA through a cycle of heating and cooling for specific times at specific temperatures. *Id.* at 126, 131-33. This is typically done 28-32 times. *Id.* at 126.

A number of things may muddle the results of amplification. If the separated strands of DNA do

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[5] These are the loci the FBI includes in its Combined DNA Index System (CODIS) and are commonly known as the "core CODIS loci." Federal Bureau of Investigation, *Frequently Asked Questions (FAQs) on the CODIS Program and the National DNA Index System*, available at http://www.fbi.gov/about-us/lab/codis/codis-and-ndis-fact-sheet (last visited Sept. 1, 2011). With technological advances some labs now regularly test 15 loci plus the sex locus on the DNA molecule. *Fundamentals of Forensic DNA Typing* at 158.

not marry up properly with the added materials, incomplete copies of DNA will result and may make it more difficult for the analyst to discern an accurate profile. *Fundamentals of Forensic DNA Typing* at 133-36, 151, 218; *see also* John M. Butler, *Forensic DNA Typing: Biology, Technology, and Genetics of STR Markers* 123-26 (2d. ed. 2005). Also, if the extracted DNA fails to copy sufficiently, it may produce unsatisfactory results or no results at all at the later detection stage. *Fundamentals of Forensic DNA Typing* at 131, 140, 216, 315-17. The analyst may opt to "reamp" it at different settings of her choosing. *Id.* at 131, 330-31, 333. But in so doing she may also reamp any contaminants (a serious concern in DNA typing[6]), thereby introducing results that deceptively appear to be part of the DNA profile from the evidence sample. *Id.* at 331-33. Or she may lose DNA fragments that are legitimately associated with the evidence sample but fail to replicate and "drop out" of the amplified product. *Id.* at 222-23, 331-33. This is particularly a problem with low-copy DNA typing – where analysts use modifications to standard DNA typing protocols to attempt to coax results from low quantity DNA that otherwise would produce minimal or no results. *Id.* at 330-34.[7]

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[6] *Fundamentals of Forensic DNA Typing* at 101, 141-42, 333; *see also Osborne*, 129 S. Ct. at 2327-28 (Alito, J., concurring) (observing that "modern DNA testing technology is so powerful that it actually increases the risks associated with mishandling evidence" because "[a]ny test that is sensitive enough to pick up . . . trace amounts of DNA will be able to detect even the slightest, unintentional mishandling of evidence").

[7] There is currently no technique generally accepted as reliable to perform Low Copy Number (LCN) typing. Accordingly, some forensic DNA labs (such as the District of Columbia's) do not attempt it. Others do, however, each employing their own

The final step in processing the DNA sample is to attempt to detect the DNA. A lab analyst runs the amplified mixture through a capillary electrophoresis instrument, which separates and measures the copies of the sex locus and STRs at the 13 CODIS loci. *Id.* at 175-76, 180-200. The lab analyst then runs the data from the capillary electrophoresis through a software program. *Id.* at 183, 186-200, 206, 211-13. The program generates "a kind of graph with peaks and valleys," called an electropherogram. Murphy, 58 Emory L.J. at 498; William C. Thompson, et al., *Evaluating Forensic DNA Evidence, Part 1: Essential Elements of a Competent Defense Review*, The Champion 16, 18-24 (April 2003) [hereinafter *Evaluating Forensic DNA Evidence, Part 1*] (Figures 2-9, displaying examples). Using threshold measures set by the lab or the individual analyst, the program labels some peaks and disregards others. *Evaluating Forensic DNA Evidence, Part 1* at 24-25; *Fundamentals of Forensic DNA Typing* at 206, 213.

Looking at the electropherogram, a lab analyst conducts another level of review and decides, based on a combination of calculations and subjective assumptions, which peaks represent real alleles and which can be disregarded. *Fundamentals of Forensic DNA Typing* at 206-7, 216-24; *Evaluating Forensic DNA*

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methods. LCN typing has been criticized as producing potentially unreliable results by leading DNA researchers in the law enforcement community, including Bruce Budowle, the former head of the FBI's forensic DNA lab. *See, e.g.*, Bruce Budowle, *Low Copy Number Typing Still Lacks Robustness and Reliability* (2010), available at http://www.promega.com/resources/articles/profiles-in-dna/low-copy-number-typing-still-lacks-robustness-and-reliability/ (last visited Sept. 1, 2011). As labs try to get results from smaller and smaller DNA samples, LCN typing is the next frontier in developing forensic DNA evidence.

Evidence, Part 1 at 21-25. Some peaks are random products of the instrument. They are not reproducible, and the lab analyst always has the option of running the DNA sample through the capillary electrophoresis again to see if they will go away. *Fundamentals of Forensic DNA Typing* at 219-20; *Evaluating Forensic DNA Evidence, Part 1* at 24. Some peaks may be the product of imperfect amplification or contamination of the sample at some point in the testing process. *Fundamentals of Forensic DNA Typing* at 218; *Evaluating Forensic DNA Evidence, Part 1* at 22-23. Because forensic DNA labs anticipate some level of contamination, they run "negative controls" – test tubes to which they add reagents alongside evidence samples throughout the DNA typing process – to attempt to detect extraneous DNA from the environment that may have been introduced into the typing process. *Fundamentals of Forensic DNA Typing* at 130, 301. Labs also run "positive controls" – samples of DNA for which the profile is known – to ensure that the DNA typing process is working properly. *Id.* at 131, 301. The electropherograms of the positive and negative controls may inform a lab analyst's interpretation of the electropherogram of the DNA in the evidentiary sample.

In her review of the electropherogram, a lab analyst not only decides which alleles are real, but also, in a case where she observes what she believes to be more than two alleles at any one locus, she attempts to discern which alleles belong to the perpetrator and which belong to the complaining witness or someone else. *Id.* at 320-27; *Evaluating Forensic DNA Evidence, Part* 1 at 21; Murphy, 58 Emory L.J. at 499-508 (detailing "the Subjectivity Inherent in Forensic DNA Typing"). Based on her judgment calls, the

analyst develops an allele chart with numbers for each extracted, amplified DNA sample. *Evaluating Forensic DNA Evidence, Part 1* at 17 (displaying and discussing an example).[8]

As detailed above, current methods of DNA typing are complex, sensitive, and have their limitations. Even forensic DNA typing done perfectly may not give a clear result, particularly in cases where the evidentiary sample tested by a lab contains a mixture of DNA from two or more people (as in Mr. Williams' case) or only a very small amount of DNA ("low-copy"), or is degraded (or degrades in the testing process), or where newer methods of DNA testing are used (*e.g.*, Y-STR or mtDNA). Furthermore, the results of DNA typing may be subject to interpretation – interpretation that may be influenced by what transpired during the DNA typing process.

B. DNA lab analysts are not infallible.

Even in the context of DNA testing, "there is little reason to believe that confrontation will be useless in testing analysts' honesty, proficiency, and methodology – the features that are commonly the focus in the

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[8] In this case, the lab analyst apparently went through the process described above to develop allele charts for the sperm sample and the epithelial sample taken from the vaginal swab, and an allele chart for the complainant's known sample. Joint Appendix (JA) 69. Then because she was not able to clearly discern two alleles at each locus in the sperm sample that belonged to the perpetrator, the lab analyst took one additional step and deduced an allele chart for the perpetrator. JA 65, 78. The prosecution expert did not know how the lab analyst had deduced the perpetrator profile, but she surmised that the analyst had subtracted out the allelic values in the chart she created for the complaining witness from the allelic values in the chart she had created for the sperm sample. JA 77.

cross-examination of experts." *Melendez-Diaz*, 129 S. Ct. at 2538. To the contrary, DNA evidence "is still subject to errors in handling that can invalidate the analysis." Nat'l Research Council, *Strengthening Forensic Science in the United States: A Path Forward* 133 (Nat'l Acad. Press ed. 2009) (hereinafter NAS Report); *see also id.* at 132 (acknowledging errors "usually involve situations in which interpretational ambiguities occur or in which samples were inappropriately processed and/or contaminated"); *Osborne*, 129 S. Ct. at 2327 (Alito, J., concurring) ("STR analyses are plagued by issues of suboptimal samples, equipment malfunctions and human error") (internal quotation and citation omitted).

Amici estimate that there are currently 200 federal, state, county, municipal, and private for-profit labs that do forensic DNA typing in the United States.[9] The reality is that some labs are better than others. William C. Thompson, *Tarnish on the "Gold Standard": Understanding Recent Problems in Forensic DNA Testing*, The Champion 10, 10-12 (Jan./Feb. 2006) (hereinafter *Tarnish on the "Gold Standard"*). Among other things, they have different staff, different training requirements and programs, different levels of funding, and different standard operating procedures. *See generally* NAS Report at 14. In addition, they "vary greatly in the care with

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[9] *See* Census of Publicly Funded Forensic Crime Laboratories (2005) (http://bjs.ojp.usdoj.gov/content/pub/pdf/cpffcl05.pdf) (last visited Sept. 1, 2011) (in survey of 389 publicly funded forensic crime laboratories, 351 responded, and 53% (186) said that they do DNA testing); NAS Report at 41 ("more than 175 publicly funded forensic laboratories and approximately 30 private laboratories conduct . . . DNA analyses . . . in the United States").

which they validate their methods and the rigor with which they carry them out. Quality control and quality assurance procedures that are followed religiously in some labs are ignored or followed intermittently in others." *Tarnish on the "Gold Standard,"* at 11. Professors Thompson and Krane explain:

> A forensic laboratory may fail to notice or choose not to report . . . a failure of experimental controls, multiple testing of samples with inconsistent results, re-labeling of samples (which can flag potential sample mix-ups or uncertainty about which sample is which), and failure to follow proper procedures . . . [*e.g.*,] that the laboratory failed to run all of the necessary control samples needed to verify the reliability of the test results, or that the laboratory ran the control samples under different conditions than the analytical samples (a major breach of good scientific practice).

William Thompson and Dan Krane, Chapter 11: DNA in the Courtroom, *Psychological and Scientific Evidence in Criminal Trials* § 11:27 (2003); *see also* William C. Thompson, et al., *Evaluating Forensic DNA Evidence. Part 2*, The Champion 24 (May 2003).

The range of quality notwithstanding, "[l]aboratory errors happen, even in the best laboratories and even when the analyst is certain that every precaution against error was taken." Nat'l Research Council, *DNA Technology in Forensic Science*, 89 (Nat'l Acad. Press ed. 1992) (hereinafter NRC I). The attached appendix contains a collection of documented lab mistakes and misconduct from the last 16 years in both public and private labs. Appendix A. These mistakes and misconduct were neither prevented by the labs' internal quality assurance mechanisms nor

detected by the labs' internal quality control measures. The entries are not limited to bad labs; even "flagship" DNA labs are represented. *Id.* (No. 11). Cellmark's Germantown Maryland lab is listed twice. *Id.* (Nos. 7, 19). Systemic problems include contamination of DNA samples,[10] *id.* (Nos. 1, 3, 4, 6, 7, 8, 13, 15); human error, in particular, sample switching and mislabeling, *id.* (Nos. 4, 5, 7, 13, 14, 16, 17, 18, 20); fraud – such as "dry labbing," faking tests or controls, and tampering with records of controls, *id.* (Nos. 4, 9, 11, 13); and cheating on competency tests. *Id.* (Nos. 2, 10, 12).

Amici's aim is not to impugn forensic DNA typing, which has rightly been held up as a model to which other methods of forensic identification should aspire, but merely to highlight that "some risk of error is inevitable" in DNA typing, "as in any human endeavor." Nat'l Research Council, *The Evaluation of Forensic DNA Evidence*, 75 (Nat'l Acad. Press ed. 1996) (hereinafter NRC II); *see also* Erin Murphy, *What 'Strengthening Forensic Science' Today Means for Tomorrow: DNA Exceptionalism and the 2009*

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[10] Good labs require documentation of instances of contamination. The surprise for the nonscientist may be "how voluminous the[se files] are." *Tarnish on the "Gold Standard,"* at 11. But "the fat files full of errors that a lab was able to catch should not be taken as reassuring evidence that 'the system is working'" in these labs. *Id.* at 12. Rather like the canary in the mine, contaminated controls are often evidence of "sloppy laboratory technique," that may undermine the reliability of other tests. *Id.* "If DNA from a suspect is accidentally transferred into a 'blank' control sample, it is obvious something is wrong; If the suspect's DNA is accidentally transferred into an evidentiary sample, the error is not obvious because there is another explanation – *i.e.*, that the suspect is the source of the evidentiary DNA." *Id.*

NAS Report, 9 Law, Probability & Risk 7, 19-20 (April 2010) (warning of DNA "exceptionalism" and noting that while DNA typing is superior to the "first-generation" of forensic evidence, "it is [still] subject to the same biases, shortcomings, errors and slow evolutionary advance as any other technique" and thus it "too[ ] requires ongoing scrutiny").

C. Making the prosecution expert who declares a match available for cross-examination does not obviate cross-examination of the lab analyst who developed the perpetrator profile.

Any criminal defendant inculpated by evidence of a match (or agreement) between a reported perpetrator profile and his known profile, may want to confront the lab analyst to probe three issues: (1) who the analyst is; (2) how, according to protocol, she should have developed the perpetrator profile; and (3) what actually happened in the course of the DNA typing. But the prosecution expert, whose only source of knowledge about the creation of a perpetrator's DNA profile is what she has read in a report generated by the lab analyst, cannot speak to any of these issues.

1. *The defense cannot use cross-examination of the prosecution expert to challenge who the lab analyst is.*

It has long been recognized that confrontation is valuable because it affords the defense and the trier-of-fact a first-hand "opportunity [to] observ[e] the quality, age, education, understanding, behavior, and inclinations of th[ose] witness[es]; in which points all persons must appear alike, when their depositions are reduced to writing." Sir William Blackstone, 3 *Commentaries on the Laws of England* *374 (1765-69

ed.). But where, as here, a prosecution expert is allowed to testify about the results of DNA typing generated by another lab, the identity of the lab analyst who performed the requisite steps to create the profile is hidden. Even if the defense has a name on a lab report turned over in discovery, the defense (and the fact-finder) cannot see or probe who that person is and cannot assess if that person has the requisite training or skills to do the work she did, the experience to exercise discretion when discretion was called for in the typing process, or a history of making mistakes.[11] *Melendez-Diaz*, 129 S. Ct. at 2537 ("an analyst's lack of proper training or deficiency in judgment may be disclosed in cross-examination"); *see also Bullcoming*, 131 S. Ct. at 2715 (cross-examination of surrogate witness did not satisfy Confrontation Clause because defendant could not ascertain from the surrogate why the analyst had been placed on unpaid leave). And of course the opportunity to confront the prosecution expert does not afford the analyst "the prospect of confrontation," which "will deter fraudulent analysis in the first place." *Melendez-Diaz*, 129 S. Ct. at 2537.

Apart from qualifications and prior mistakes, the defense cannot probe the lab analyst's bias. As this Court has acknowledged,

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[11] The state asked the expert witness who testified in Mr. Williams' case a number of questions to elicit her *bona fides*. JA 44-47. This polished expert received rave reviews from the trial court, *People v. Williams*, 939 N.E.2d 268, 276 (Il. 2010) (declaring her "the best DNA expert I have ever heard"), but there is no reason to believe the expert's professional experience or performance on the stand would be representative of a DNA lab analyst, particularly if the lab believed the analyst could be shielded from being called as a prosecution witness.

> [b]ecause forensic scientists often are driven in their work by a need to answer a particular question related to the issues of a particular case, they sometimes face pressure to sacrifice appropriate methodology for the sake of expediency . . . . A forensic analyst responding to a request from a law enforcement official may feel pressure – or have an incentive – to alter the evidence in a manner favorable to the prosecution.

Melendez-Diaz, 129 S. Ct. at 2536 (internal quotation and citation omitted). Laboratories that do forensic DNA testing routinely communicate with law enforcement and the prosecution for the entirely legitimate purpose of facilitating their testing. But the information transmitted in these interactions may go beyond what is needed for effective testing. And if the lab does not take sufficient precautions to screen its analysts from irrelevant (for the lab's purposes) but prejudicial information, it may compromise the lab analyst's neutrality as a technician or scientist. *See, e.g.*, *Evaluating DNA in the Courtroom, Part 1* at 18-19. Beyond classic bias against the defendant, the defense cannot ask the analyst whether there is any pressure in the lab to perform more quickly, potentially at the cost of being careful and thorough. This may be a particular concern where the analyst works for a for-profit private lab.

Finally, the defense cannot probe the lab analyst's honesty through the expert witness. *Amici* have no reason to believe that DNA analysts are any more honest than the general population. *See Osborne*, 129 S. Ct. at 2328 (Alito, J., concurring) (noting "the intentional DNA-evidence-tampering scandals that have surfaced in recent years."); Appendix A (Nos. 2,

4, 7, 10-13); *see also Tarnish on the "Gold Standard"* at 12 (discussing the pressures that might induce a lab analyst to commit fraud). Prior bad acts and the possibility of falsifying records or tampering with evidence in the instant case are all potentially legitimate areas of inquiry that defense counsel should be able to pursue on cross-examination, but cannot when only an expert witness testifies. *See* JA 83 (sustaining objection to defense counsel's question whether expert was "aware of any instances of . . . fraud by analysts at Cellmark").

2. *The defense cannot use cross-examination of the prosecution expert to probe or challenge the standard operating procedures and quality assurance mechanisms at the analyst's lab – or the analyst's knowledge or understanding of those requirements.*

In 2011, all labs that conduct forensic DNA typing should have written standard operating procedures ("SOPs"). *See* NRC I at 51-56, 104-05 (recommending that forensic DNA labs create and validate SOPs). These SOPs generally tell lab analysts what tests to do in what circumstances, how to do those tests, and what quality control methods to follow (*e.g.*, what controls to run to make sure the reagents function and tested material and reagents are not contaminated). These SOPs should be validated by the lab to ensure that they produce repeatable, reliable results. *Fundamentals of Forensic DNA Typing* at 8-9, 300-03; *see also* NRC I at 51-52, 55, 72, 104-05; NRC II at 76. Forensic DNA labs should also have a quality assurance document or manual that addresses, *inter alia*, who is allowed to do what in the lab, how the lab should be set up, how evidence should be labeled,

stored and handled, how reagents should be stored, how equipment should be maintained, and how casework and problems in the lab – *e.g.*, instances of contamination – should be documented. *See* NRC I at 16, 105; NRC II at 76, 80-85. A lab's SOPs and quality assurance documents should be revised to address new testing methods or when a concern arises about the operation of the lab and reliability and repeatability of its tests. A lab's work is only as good as its SOPs.

Among the approximately 200 labs in the U.S. that do forensic DNA typing, SOPs and quality assurance materials vary in substance, length and specificity, and they afford an analyst varying levels of discretion in how to do her job. *See, e.g.*, JA 60 (prosecution expert acknowledges that she is aware Cellmark and the Illinois State Police have different procedures and standards for reporting results). Where, as here, the lab analyst does not testify and the prosecution expert comes from a different lab and has no knowledge of the relevant policies and procedures and quality assurance and quality control mechanisms, the defense cannot probe what those requirements are. Thus, although the prosecution expert represented that Cellmark "would have to meet certain guidelines to perform DNA analysis . . . so all those calibrations and internal proficiencies and controls would have had to have been in place," JA 59-60, she did not "review their [Cellmark's] procedures." JA 60.[12] Due

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[12] The Illinois Supreme Court seemed to think the prosecution expert had something to do with establishing "guidelines" for Cellmark's Germantown lab, 939 N.E.2d at 276 (noting "Cellmark was an accredited laboratory and followed guidelines that she [the expert] had personally developed"). But the expert testified only that she had "helped develop" at some unspecified point in time a "line of proficiency tests to be administered to

to the expert's admitted ignorance, defense counsel was precluded from exploring precisely what Cellmark's SOPs required, how they might have been deficient or left room for error, confusion, or contamination, or how they might have required an action that was not taken in this case (*see* I.B.3 *infra*).

3. *The defense cannot use cross-examination of the prosecution expert to probe or challenge what the lab analyst actually did, what actually happened during the DNA typing process, or why the analyst reported out the profile the way she did.*

Obviously, when only a prosecution expert testifies, the defense cannot probe and challenge what the lab analyst actually did or what actually happened during the extraction, quantitation, dilution, and amplification of the DNA or the injection of this mixture into the capillary electrophoresis for separation and detection. In Mr. Williams' case, the prosecution expert briefly explained "how PCR DNA testing is done" generally, JA 48, but she did not know how it was conducted by Cellmark, and she acknowledged that she "did not observe anything." JA 60; *see also* JA 59 (acknowledging she "based . . . [her] testimony on testing that was done by that other lab"). Indeed, defense counsel was prevented from asking the prosecution expert "if the results in . . . [Cellmark's sperm sample] data were wrong, would any matches be

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analysts at Cellmark." JA 87. The expert never stated whether the tests had actually been used, and, in any event, proficiency tests – tests to determine if individual analysts can perform a specific task competently, *Fundamentals of Forensic DNA Typing* at 297-300 – are not the same thing as standard operating procedures or "guidelines" for a lab's operations.

wrong?" because the question called for "[s]peculation with no basis of fact." JA 69-70.

As this case demonstrates, defense counsel cannot probe through the prosecution expert whether the lab analyst actually followed the protocols that are essential to the validity of the results. Even assuming compliance, defense counsel cannot probe through the prosecution expert the discretionary calls made by the lab analyst throughout the DNA typing process, *e.g.*, whether to "reamp" the extract with any adjustments for concentration or otherwise. *See* p. 7 *supra*; JA 82 (expert admits she did not know anything about the quantitation of the DNA in this case). Moreover, if any of the requisite steps for DNA typing was redone (pursuant to protocol), defense counsel cannot probe through the prosecution expert why it was redone and whether inconsistent results were obtained. And defense counsel cannot probe through the prosecution expert whether any notable or unexpected events took place, *e.g.*, whether any of the controls registered problems with the typing process. JA 62 (expert acknowledges that she did not review the electropherograms for the positive or negative controls).

Likewise, defense counsel cannot probe through the prosecution expert why the lab analyst reported the perpetrator profile the way she did. The lab analyst in this case was apparently unable to discern a pure profile for the perpetrator. She observed more than two allelic values at multiple loci, JA 71 – but then determined that some of these values could be disregarded in the sperm sample profile and some could not. JA 77-79. The judgment calls the lab analyst made to produce the deduced perpetrator profile are unquestionably something that defense

counsel would have liked to cross-examine the lab analyst about and highlights why confrontation of the lab analyst was critical in this case.[13]

* * *

For all of these reasons, confrontation of a lab analyst who deduces a perpetrator's DNA profile is essential to the truth-seeking function of a criminal trial in which the prosecution seeks to incriminate a defendant using DNA evidence.

II. THE COURT SHOULD NOT EXEMPT A DNA LAB ANALYST FROM CONFRONTATION BECAUSE SHE WORKS IN AN ACCREDITED LAB.

At trial the prosecution expert repeatedly asserted that Cellmark was an accredited lab. JA 49, 59-60,

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[13] These judgment calls were not moot because of the Illinois Supreme Court's assessment that the prosecution expert "conducted an independent evaluation of data." 939 N.E.2d at 276. The expert's review of the available data was quite cursory. She did not review any of the raw data from the capillary electrophoresis which was used to generate the electropherograms. JA 69. She did not review any of the negative or positive control data for the sperm sample. *Id.* at 62. She did not review the electropherograms of the epithelial sample or the complaining witness' standard, *id.* at 62, 68-69 – which the lab analyst would have used to create the allele charts that she then used to help her deduce the perpetrator profile. And the prosecution expert did not review the lab's protocols, which would have told her precisely how Cellmark should have done the DNA typing in this case. *Id.* at 60. Moreover, the data that the prosecution expert *did* review – the allele charts of the epithelial sample, the sperm sample, and complaining witness' known sample, *id.* at 61, 69, and the one electropherogram of the sperm sample, *id.* at 62, 68-69 – could not support an "independent" evaluation of the deduced perpetrator profile, since all of this information was developed and reported by the lab analyst.

74. The implication was that Cellmark must have done everything correctly in Mr. Williams' case because "all those calibrations and internal proficiencies and controls would have had to have been in place." *Id.* at 59-60. The illegitimacy of this reliability argument notwithstanding, *Crawford v. Washington*, 541 U.S. 36, 61 (2004) ("[a]dmitting statements deemed reliable by a judge is fundamentally at odds with the right of confrontation"), the argument that accreditation of a forensic laboratory is alone a sufficient guarantee of reliability of reported results in individual criminal cases bears rebutting.

Ensuring adherence to protocol and confirming the validity of test results in individual cases is not the object of accreditation. NAS Report at 195. The aim of accreditation is to promote lab-wide compliance with set standards. *Id.* To this end, accrediting bodies review minimum standards for protocols, quality assurance measures, and documentation of casework and problems. *See, e.g., ASCLD/LAB Inspection Report for San Francisco Police Department Criminalistics Laboratory*, Nov. 17-19, 2009.[14] Although some case work is audited, it is only a small sampling of the work done by the lab; not every case is scrutinized in the accreditation or reaccreditation process.

Accreditation of forensic labs has not prevented errors, contamination, and fraud in individual cases. NAS Report at 47-48 ("even accredited laboratories make mistakes"). A number of labs accredited by the American Society of Crime Laboratory Directors

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[14] Available at http://www.cacj.org/documents/SF_Crime_Lab/Documentation/2009_ASCLAD_Audit_Report_SF_Crime_Lab.pdf) (last visited Sept. 1, 2011).

Laboratory Accreditation Board (ASCLD/LAB), the primary accreditor of forensic labs in the United States,[15] have suffered from serious quality control and quality assurance issues that the accreditation and reaccreditation process did not catch.[16] In 13 out of the 20 examples of documented misconduct and mistakes in DNA typing discussed in Appendix A, the laboratories were accredited at the time of the misconduct or mistake. Appendix A (Nos. 1-4, 6-9, 11-12, 15-16, 19).

Many of these labs were accredited under weak standards that ASCLD/LAB created (subsequently dubbed the "Legacy Program"). ASCLD/LAB only adopted more rigorous international standards for accreditation (ISO 17025) in 2004.[17] And ASCLD/LAB has been slow in requiring labs to follow the international standard in lieu of its Legacy stan-

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[15] *See* Census of Publicly Funded Forensic Crime Laboratories (2005), n.9 *supra* (78% of 293 publicly funded forensic crime laboratories labs responding to survey question regarding accreditation said that they were accredited by ASCLD/LAB).

[16] There are also numerous examples of accredited lab failures outside the context of DNA testing. For example, North Carolina's State Bureau of Investigation was accredited by ASCLD/LAB, but that did not prevent the SBI from imploding last year after it was discovered that lab analysts withheld or misreported the results of blood tests in at least 230 cases, and maintained a bloodstain analysis unit that had no set guidelines. Mandy Locke and Joseph Neff, *Inspectors Missed All SBI Faults*, The News Observer, Aug. 26, 2010; Joseph Neff and Mandy Locke, *SBI Bloodstain Analysis Team Had No Guidelines for 21 Years*, The News Observer, Sept. 9, 2010).

[17] http://www.ascld-lab.org/about_us/history.html (last visited Sept. 1, 2011).

dards.[18] There are currently 96 forensic DNA labs accredited under ASCLD/LAB's Legacy Program. *See Amici* Appendix B.

Amici support a robust accreditation system for forensic labs. But although organizations like ASCLD/LAB have been steadily raising their standards, they are still evolving. Even if these accrediting bodies were operating with the independence and high standards *amici* believe are needed, this would not supplant the need for adversarial testing in an individual case. To the contrary,

> *effective forensic analysis requires quality assurances of numerous kinds*, including: that the methodology is valid (including tailored to a particular purpose); that the laboratory's protocols for executing the methodology are valid (including training, oversight, and error prevention); that the laboratory's actual execution of that protocol is generally reliable (including blind testing, quality assurance methods, and regular review of corrective action files); *and that the execution of a methodology in a particular case is reliable.*

Erin Murphy, *The New Forensics: Criminal Justice, False Certainty, and the Second Generation of Scientific Evidence*, 95 Cal. L. Rev. 721, 784 n. 272 (2007) (emphasis added); *see also* NRC II at 80 ("There is no single solution to the problem of error."). To ensure that the execution of DNA typing in a particular criminal case is reliable, it is essential that the defense be afforded the opportunity to confront the

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[18] *Id.* ("ASCLD/LAB will continue to fully support the many laboratories which are currently accredited under the Legacy Program . . . .").

lab analyst who developed the perpetrator profile with which the prosecution seeks to incriminate the defendant.

CONCLUSION

For the reasons set forth above, *amici* respectfully request that the judgment of the Illinois Supreme Court be reversed.

Respectfully submitted,

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APPENDIX

APPENDIX A

A COLLECTION OF DOCUMENTED LABORATORY MISCONDUCT AND MISTAKES IN DNA TYPING[1]

1. **San Francisco Police Department Criminalistics Laboratory** (San Francisco, CA)

Contamination (2009): A DNA analyst contaminated controls with her own DNA in at least two cases. The contamination was not caught by the lab's quality assurance checks, but was discovered later, during an investigation prompted by a drug unit analyst's misconduct. A subsequent audit found that the lab suffered from "poor record keeping and a lack of cleanliness." Brent Begin, *Tainted DNA Adds to SFDP's Crime Lab Issues*, SF Examiner, Mar. 22, 2010. The SFPD lab was accredited by American Society of Crime Laboratory Directors Laboratory Accreditation Board (ASCLD/LAB) at the time the errors occurred and was subsequently reaccredited for another five year period. *ASCLD/LAB Inspection Report for San Francisco Police Department Criminalistics Laboratory*, Nov. 17-19, 2009 (available at http://www.cacj.org/documents/SF_Crime_Lab/Documentation/2009_ASCLAD_Audit_Report_SF_Crime_Lab.pdf) (noting that the lab is seeking reaccreditation); ASCLD/LAB website:

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[1] This is a representative list of forensic DNA typing misconduct and mistakes in law enforcement and private labs throughout the country that have been made public. It is not intended to be comprehensive. Entries are listed in reverse chronological order based on the approximate date when the mistake or misconduct occurred. All websites cited were last visited on September 1, 2011.

http://www.ascld-lab.org/labstatus/accreditedlabs.html (follow "San Francisco Police Department Criminalistics Laboratory, San Francisco, CA" hyperlink) (showing current Certificate of Accreditation).

2. **Houston Police Department Crime Laboratory** (Houston, TX)

Cheating Related to Competency (2007): Plagued with problems in its DNA unit, *see* No. 13 *infra*, the HPD Crime Laboratory finally reopened in 2006 only to close once again two years later when an internal affairs investigation revealed that the chief of the lab and another employee facilitated cheating on the technicians' competency exams. The HPD Crime Laboratory was accredited by ASCLD/LAB at the time the cheating occurred, and an ASCLD official said the incident would not affect the lab's accreditation status: "From time to time, laboratories do have issues, and we always try to work with them and help them resolve problems," the official said. Rosanna Ruiz & Robert Crowe, *HPD Again Shuts Down Crime Lab's DNA Unit*, Hous. Chron., Jan. 26, 2008.

3. **Minnesota Bureau of Criminal Apprehension Lab** (MN)

Contamination (2005): A lab analyst accidentally contaminated a DNA sample from a rape case in one county with a DNA sample from a rape case in another county. The lab released the results of the DNA typing of the contaminated samples to the prosecutor before the error was caught. The BCA Laboratory was accredited by ASCLD/LAB at the time of the error. When

interviewed about the incident, an ASCLD/LAB official stated, "[c]ontamination happens. You can't pretend it doesn't happen, but it's also not the end of the world." David Chanen, *Defense Attorneys Raise Concerns about DNA Sample Mix-up*, Minneapolis Star Tribune, May 20, 2005; *see also BCA Crime Lab Under the Microscope*, KSTP-TV News, May 20, 2005, *available at* http://www. corpus-delicti.com/mbca_2005.txt.

4. **United States Army Criminal Investigation Laboratory – Fort Gillem** (Forest Park, GA)

Contamination, Fraud & Mistakes (2003-05): A DNA analyst for the United States Army "admitted making a false entry on a control sample." Associated Press, *Worker in Army Lab May Have Falsified DNA Test Result*, USA Today, Aug. 27, 2005. The same analyst had been suspended a year earlier when contamination was detected in his typing process. *Id.* A review of the hundreds of cases he worked on in his ten years at the lab found that the analyst had made numerous mistakes and that "lab officials disagreed with his DNA test results 55 percent of the time in cases they could retest." Marisa Taylor and Michael Doyle, *Army Slow to Act As Crime-Lab Worker Falsified, Botched Tests*, McClatchy, Mar. 20, 2011; *see also* William C. Thompson, *Tarnish on the "Gold Standard": Understanding Recent Problems in Forensic DNA Testing*, The Champion 10 (2006) (hereinafter *Tarnish on the "Gold Standard"*). USACIL is the only full service forensic laboratory in the Department of Defense, and it was accredited by ASCLD/LAB at the time of this misconduct. USACIL Website: http://www.cid.army.mil/usacil.html.

5. **Identigene** (Houston, TX)

Mistake & Bias (2004): After the Houston Police Department Crime Laboratory was shut down in 2002, *see #13 infra*, Identigene was one of three private laboratories hired to check the HPD Crime Lab's work. During re-testing, one Identigene DNA analyst mislabeled two DNA samples, resulting in an error that Identigene did not catch. When the HPD discovered the error, the DNA samples underwent a third round of testing. During this test, an Identigene analyst drafted three different reports regarding the DNA typing, but consulted with the HPDS and the Harris County District Attorney's office before issuing a final report, thus raising questions about bias and undermining the independent nature of the reported results. Roma Khanna, *Retesting of Crime Lab Work in Question*, Hous. Chron., Dec. 6, 2004, at A1.

6. **Washington State Patrol Crime Laboratories** (Multiple locations, WA)

Contamination (2004): An investigation by the Seattle Post-Intelligencer into the state crime laboratories revealed systemic problems with DNA testing, including twenty-three DNA testing errors. In sixteen of those cases, evidentiary samples were contaminated with the examiner's own DNA (8 cases), from samples from other cases (3 cases), or from an unknown source (5 cases). Ruth Teichroeb, *Rare Look Inside State Crime Labs Reveals Recurring DNA Test Problems*, Seattle Post-Intelligencer, July 22, 2004, at A1. The Crime Laboratory Division was accredited by ASCLD/LAB at the time of these lab

failures. Washington State Patrol Website: http://www.wsp.wa.gov/forensics/flsbhome.htm.

7. **Cellmark Diagnostics** (Germantown, MD)

Contamination, Mistake & Fraud (2003-04): In at least twenty-five tests, DNA analyst Sarah Blair manipulated computer files in order to replace records of problematic controls (showing contamination in the negative control and/or problems with the testing in the positive control) with the results of "clean controls" from other DNA tests. Laura Cadiz, *Md.-based DNA Lab Fires Analyst Over Falsified Tests*, Balt. Sun, Nov. 18, 2004; Rick Orlov, *Lab Used by LAPD Falsified DNA Data*, L.A. Daily News, Nov. 19, 2004, at N1; Dr. Simon Ford, *Fraud Detection Through Case Reviews*, Powerpoint Presentation (Aug. 11, 2005, on file with PDS). Cellmark Diagnostics was accredited by ASCLD/LAB at the time the fraud occurred. Orchid Cellmark Company Timeline, http://www.orchidcellmark.com/about/companytimeline.

8. **Broward County Sheriff's Crime Lab** (Ft. Lauderdale, FL)

Contamination (2003): A DNA analyst contaminated evidence from a murder trial with DNA samples taken from a rape victim in another case. The tests on the murder and rape cases had been run in the lab on the same day. Paula McMahon, *Crime Lab Botches Murder Inquiry; Prosecutors Must Drop Charges After DNA Evidence is Contaminated*, Sun Sentinal (Ft. Lauderdale, FL), June 24, 2003, at 1A. The lab was accredited by ASCLD/LAB at the time of this lab failure. Broward Sheriff's Office

Website: http://sheriff.org/news_from_beo/display.cfm?pk=646.

9. **Indianapolis-Marion County Forensic Services Agency** (Indianapolis, IN)

Fraud (1997-2003): In at least 64 cases, a DNA analyst "dry-labbed" control samples by reporting that he had performed testing according to protocol when he had in fact omitted the required controls. Vic Ryckaert, *Judge Asked to Halt DNA Retests: Crime Lab Less Than Candid About Cases Under Review, Attorney Says*, Ind. Star, Aug. 13, 2003, at 1B. ASCLD/LAB accredited the lab during this time period under its more rigorous international stadards. ASCLD/LAB Newsletter, March 2002 (available at http://www.ASCLD/LAB.org/communications/newsletters/2002_march_newsletter.PDF); Indianapolis-Marion County Forensic Services Agency Annual Report 2007 (announcing that FSA had become accredited under ASCLD/LAB's International Standards).

10. **Michigan Department of State Police Lansing Forensic Laboratory** (Lansing, MI)

Cheating Related to Competency (2003): The administrator of the State Police Crime Lab had a subordinate take a mandatory bi-annual proficiency exam in his place. He was permitted to resign before his misconduct was made public. Keith Matheny, *Supervisor Accused of Passing Off DNA Test*, Traverse City Record-Eagle, Dec. 19, 2004.

11. **Federal Bureau of Investigation Laboratory** (Quantico, VA)

Fraud (2000-02): In over 100 cases, DNA analyst Jacqueline Blake "dry-labbed" control samples by reporting that she had performed testing according to protocol when she had in fact omitted the required controls. These "omissions rendered her work scientifically invalid and unuseable in court." Office of the Inspector General, U.S. Department of Justice, *The FBI DNA Laboratory: A Review of Protocol and Practice Vulnerabilities*, i (2004). Blake eventually pled guilty in federal court to a misdemeanor charge of providing false statements in her lab reports. *Id.* at ii. Her fraud was fortuitously discovered by a colleague at the lab, not the lab's internal quality assurance mechanisms. *Id.* The scope of the misconduct prompted the Office of the Inspector General to initiate an inspection and produce a comprehensive report detailing protocol and operational vulnerabilities and critiquing the lab's response to Blake's misconduct. *Id.* The FBI lab was accredited by ASCLD/LAB at the time of Blake's Fraud. *Id.* at 21; *see also Mueller Defends Crime Lab After Questionable DNA Tests*, USA Today, May 1, 2003, at 3A; Maurice Possley, Steve Mills & Flynn McRoberts, *Scandal Touches Even Elite Labs: Flawed Work, Resistance to Scrutiny Seen Across U.S.*, Chi. Trib., Oct. 21, 2004, at C1; Paul C. Giannelli, *Wrongful Convictions and Forensic Science: The Need to Regulate Crime Labs*, 86 N.C. L. Rev. 163, 168 (2007).

12. **Florida Department of Law Enforcement Crime Lab – Orlando Regional Crime Laboratory** (Orlando, FL)

Cheating Related to Competency (2002): A lab analyst failed a competency and skill test, and then forged his answers to cover up his failure. The analyst was forced to resign, but the lab did not notify the State's Attorney's Office. Instead, the lab left it to the analyst to inform prosecutors about his misconduct, which he failed to do. Rene Stutzman, *State DNA Analyst's Data Forgeries Could Result In New Trial for Rapist*, Orlando Sentinel, July 25, 2002; Rene Stutzman, *Judge Rips FDLE Silence in Lab Flap*, Orlando Sentinel, Aug. 3, 2002. The Orlando Regional Crime Lab was accredited by ASCLD/LAB at the time of this misconduct. U.S. Department of Justice Office of the Inspector General Audit Division, *Compliance With Standards Governing Combined DNA Index System Activities At The Florida Department Of Law Enforcement Orlando Regional Crime Laboratory Orlando, Florida* (March 2011) (available at http://www.justice.gov/oig/grants/2011/g4011002.pdf).

13. **Houston Police Department Crime Laboratory** (Houston, TX)

Contamination, Fraud & Mistake (2002): After a local television station raised questions about the lab's testing procedures, the lab conducted an internal audit, which revealed improperly trained employees, samples contaminated by run-off from a leak in the roof, failure to perform quality control checks, and four instances of "dry-labbing," or reporting findings without having conducted tests. As a result, the city closed the

lab and sent samples to be re-tested at other facilities. Paul C. Giannelli, *Wrongful Convictions and Forensic Science: The Need to Regulate Crime Labs*, 86 N.C. L. Rev. 163, 166 n. 19 (2007); *see also* Steve McVicker & Roma Khanna, *Crime Lab Chief Reveals Failings*, Hous. Chron., Apr. 2, 2003, at 17.

14. **Las Vegas Metropolitan Police Department Forensic Laboratory** (Las Vegas, NV)

Mistake (2002): In a sex assault case, a lab analyst mislabeled the male complainant's DNA reference sample with the male suspect's name. When the mislabeled DNA profile was run against a state database of unsolved crimes, it matched DNA from two other sexual assaults, causing the suspect to be mistakenly charged with the two previous crimes. The mistake was not discovered until the Clark County Public Defender's own forensic science expert conducted a review of the reports. Glen Puit, *Police Forensics: DNA Mix-up Prompts Audit at Lab*, Las Vegas Review J., Apr. 19, 2002, at 1B; Glen Puit, *DNA Evidence: Officials Admit Error; Dismiss Case*, Las Vegas R. J., Apr. 18, 2002.

15. **Michigan State Police Crime Laboratory** (Lansing, MI)

Contamination (2002): Results of DNA analysis suggested contamination when DNA samples from a murder victim included a DNA profile that implicated a man who was only four years old at the time the crime occurred. His known sample was being processed by the lab in connection with another case on the same day as the evidentiary sample from the murder case.

Tarnish on the "Gold Standard" at 14; *see also Murder Case DNA May Be Retested*, Ann Arbor News, May 11, 2005. The MSP lab was accredited by ASCLD/LAB at the time of this lab failure. Michigan State Police Website: http://www.michigan.gov/msp/0,4643,7-123-1593_3800-15901--,00.html.

16. **North Carolina State Bureau of Investigation** (Multiple locations, NC)

Mistake (2002): DNA typing by the SBI lab mistakenly identified DNA from a bloodstain at the scene as belonging to the suspect; a private lab hired by the defense determined that the DNA actually matched the victim, indicating that samples had been switched or mislabeled at some point during the DNA typing. Phoebe Zerwick, *DNA Mislabeled in a Murder Case*, Winston-Salem J., Aug. 28, 2005. The SBI lab was accredited at the time of this error and the North Carolina Academy of Trial Lawyers cited this case and others as a reason for ASCLD/LAB to "do a thorough investigation and shut down the lab until they come up with better quality control." Phoebe Zerwick, *State Crime Lab is Faulted: Lawyer's Group Calls for Probe, Cites DNA Errors in Three Cases*, Winston-Salem J., July 20, 2005.

17. **Las Vegas Metropolitan Police Department Forensic Laboratory** (Las Vegas, NV)

Mistake (2001): During DNA typing, a lab analyst switched the reference samples of the two suspects in a robbery case, resulting in the wrongful conviction of an innocent man. As a result of the error the lab said it would review more than 200 cases handled by the same lab

analyst. *See* Jackie Valley, *Metro Reviewing DNA Cases After Error Led to Wrongful Conviction*, Las Vegas Sun, July 7, 2011.

18. **Philadelphia City Crime Laboratory** (Philadelphia, PA)

Mistake (1999): A lab analyst switched reference samples of the defendant and the complainant in a rape case, so that when the analyst tested the reference sample against what was thought to be DNA from seminal stains found on the complainant's clothing, there was a match. After retesting the DNA sample from the crime scene against the defendant's true reference sample, the lab determined that the DNA was actually from bloodstains on the complainant's clothing that matched only the complainant. *See* William C. Thompson, et al., *How the Probability of a False Positive Affects the Value of Forensic DNA Evidence*, 48 J. Forensic Sci. 47, 48-49 (2003).

19. **Cellmark Diagnostics** (Germantown, MD)

Mistake (1995): A DNA analyst mistakenly switched the reference samples of a rape defendant and complainant and reported that the defendant's DNA profile matched the DNA sample taken from a vaginal swab. No one identified the error until the analyst testified during the trial; subsequently, the lab issued a report that the reference sample matched the complainant's own profile and excluded the defendant as a contributor. Thompson, 48 J. Forensic Sci. at 3. The Germantown laboratory was accredited by ASCLD/LAB at the time of the error. Orchid Cellmark Company Timeline, http://www.orchidcellmark.com/about/companytimeline.html.

20. **LAB UNKNOWN** (Tulsa, OK)

Mistake (1993): A lab developed a DNA profile from a rape kit. The profile was determined to match Timothy Durham, who was convicted of the crime and spent four years in prison. Post-conviction testing showed that Durham's DNA did not match the sample. The analyst had failed to completely separate the male from female DNA during testing; and the combination of the victim's alleles and the rapist's alleles on the electropherogram resembled Durham's genotype. Thompson, 48 J. Forensic Sci. at 3.

APPENDIX B

FORENSIC DNA LABORATORIES CURRENTLY ACCREDITED UNDER ASCLD/LAB'S LEGACY PROGRAM

The following labs are listed on the website of the American Society of Crime Laboratory Directors Laboratory Accreditation Board (ASCLD/LAB), http://www.ascld-lab.org/accreditedlabs.html, as labs as being accredited under ASCLD/LAB's "Legacy Program" for "Biology" (unless accreditation specifies "Serology only"):

1. Alabama Department of Forensic Sciences, Birmingham Regional Laboratory, Hoover, AL
2. Alabama Department of Forensic Sciences, Huntsville Regional Laboratory, Huntsville, AL
3. Alabama Department of Forensic Sciences, Mobile Regional Laboratory, AL
4. Alabama Department of Forensic Sciences, Montgomery Regional Laboratory, Montgomery, AL
5. State of Alaska, Department of Public Safety, Scientific Crime Detection Laboratory, Anchorage, AK
6. Mesa Police Department, Forensic Services Section, Mesa, AZ
7. Tucson Police Department Crime Laboratory, Tucson, AZ
8. Arkansas State Crime Laboratory, Little Rock Laboratory, Little Rock, AR
9. Alameda County Sheriff's Office Criminalistics Laboratory, San Leandro, CA

10. Contra Costa County Sheriff's Department, Forensic Services Division, Martinez, CA
11. Kern County District Attorney, Regional Criminalistic Laboratory, Bakersfield, CA
12. Oakland Police Department Criminalistics Laboratory, Oakland, CA
13. San Bernardino County Sheriff's Office, San Bernardino, CA
14. San Diego County Sheriff's Department, Regional Crime Laboratory, San Diego, CA
15. San Diego Police Department Crime Laboratory, San Diego, CA
16. San Francisco Police Department Criminalistics Laboratory, San Francisco, CA
17. Santa Clara County District Attorney's Crime Laboratory, San Jose, CA
18. Serological Research Institute (SERI), Forensic Serological Analysis, Richmond, CA
19. Colorado Bureau of Investigation, Denver Forensic Laboratory, Denver, CO
20. Colorado Bureau of Investigation, Grand Junction Forensic Laboratory, Grand Junction, CO
21. Colorado Bureau of Investigation, Pueblo Regional Laboratory, Pueblo, CO
22. Connecticut Department of Public Safety, Forensic Science Laboratory, Meriden, CT
23. Palm Beach County Sheriff's Office, Forensic Sciences Division, West Palm Beach, FL
24. Northeastern Illinois Regional Crime Laboratory, Vernon Hills, IL

25. Indiana State Police, Evansville Regional Laboratory, Evansville, IN
26. Indiana State Police, Ft. Wayne Regional Laboratory, Ft. Wayne, IN
27. Indiana State Police, Indianapolis Regional Laboratory, Indianapolis, IN
28. Indiana State Police, Lowell Regional Laboratory, Lowell, IN
29. Kansas Bureau of Investigation, Great Bend Forensic Laboratory, Great Bend, KS
30. Kansas Bureau of Investigation, Kansas City Forensic Laboratory, Kansas City, KS
31. Kansas Bureau of Investigation, Topeka Forensic Laboratory, Topeka, KS
32. Sedgwick County Regional Forensic Science Center, Wichita, KS
33. Kentucky State Police, Central Laboratory, Frankfort, KY
34. Jefferson Parish Sheriff's Office Regional DNA Laboratory, Harahan, LA
35. North Louisiana Criminalistics Laboratory, Shreveport Headquarters Laboratory, Shreveport, LA
36. North Louisiana Criminalistics Laboratory, West Monroe Satellite Laboratory, West Monroe, LA
37. Maine State Police Crime Laboratory, Augusta, ME
38. Anne Arundel County Police Department Crime Laboratory, Millersville, MD

39. Armed Forces Medical Examiner System Armed Forces, DNA Identification Laboratory, Rockville, MD
40. Baltimore County Police Department Forensic Services Section, Towson, MD
41. Baltimore Police Department Laboratory Section, Baltimore, MD
42. Bureau of Alcohol, Tobacco and Explosives Forensic Science Laboratory – Washington, Beltsville, MD
43. Montgomery County Police Crime Laboratory, Rockville, MD
44. Boston Police Department Crime Laboratory Unit, Boston, MA
45. Massachusetts State Police Forensic Services Group, Central Laboratory at Maynard, Maynard, MA
46. Michigan Department of State Police, Grand Rapids Forensic Laboratory, Grand Rapids, MI
47. Michigan Department of State Police, Lansing Forensic Laboratory, Lansing, MI
48. Michigan Department of State Police, Northville Forensic Laboratory, Northville, MI
49. Mississippi Department of Public Safety, Jackson Crime Laboratory, Jackson, MS
50. Scales Biological Laboratory, Inc., Brandon, MS
51. Kansas City Police Department Crime Laboratory, Kansas City, MO
52. Missouri State Highway Patrol, Troop D Satellite Laboratory, Springfield, MO

53. Missouri State Highway Patrol, Troop E Satellite Laboratory, Cape Girardeau, MO
54. St. Charles County Sheriff's Department Criminalistics Laboratory, O'Fallon, MO
55. St. Louis County Police Department Crime Laboratory, Clayton, MO
56. St. Louis Metropolitan Police Department Crime Laboratory, St. Louis, MO
57. Nebraska State Patrol, Lincoln Crime Laboratory, Lincoln, NE
58. Las Vegas Metropolitan Police Department Forensic Laboratory, Las Vegas, NV
59. Washoe County Sheriff's Office Forensic Science Division, Reno, NV
60. Union County Prosecutor's Office Forensic Laboratory, Westfield, NJ
61. Metropolitan Forensic Science Center, Albuquerque Police Department, Albuquerque, NM
62. Erie County Central Public Services, Buffalo, NY
63. Monroe County Crime Laboratory, Rochester, NY
64. Suffolk County Crime Laboratory, Department of Health Services, Hauppauge, NY
65. Charlotte Mecklenburg Police Department, Charlotte, NC
66. DNA: SI Labs, Burlington, NC
67. North Carolina State Bureau of Investigation, Raleigh Laboratory, Raleigh, NC
68. North Dakota Office of Attorney General Crime Laboratory Division, Bismarck, ND

69. Canton-Stark County Crime Laboratory, Canton, OH

70. Cuyahoga County Regional Forensic Science Laboratory, Cleveland, OH

71. Mansfield Division of Police Forensic Science Laboratory, Mansfield, OH

72. Miami Valley Regional Crime Laboratory, Dayton, OH

73. Ohio Bureau of Criminal Identification and Investigation, Bowling Green Laboratory, Bowling Green, OH

74. Ohio Bureau of Criminal Identification and Investigation, London Laboratory, London, OH

75. Ohio Bureau of Criminal Identification and Investigation, Richfield Laboratory, Richfield, OH

76. Oklahoma State Bureau of Investigation, Forensic Science Center, Edmond, OK

77. Oklahoma State Bureau of Investigation, Northeast Regional Laboratory, Tahlequah, OK

78. Oklahoma State Bureau of Investigation, Southwest Regional Laboratory, Lawton, OK

79. Allegheny County Office of the Medical Examiner, Forensic Laboratory Division, Pittsburgh, PA

80. Pennsylvania State Police, DNA Laboratory, Greensburg, PA

81. Institute of Forensic Science of Puerto Rico, Criminalistics Laboratory San Juan, San Juan, PR

82. IntelliGenetics, LLC, Hilton Head, SC

83. South Carolina Law Enforcement Division Forensic Services Laboratory, Columbia, SC

84. Tennessee Bureau of Investigation, Knoxville Regional Crime Laboratory, Knoxville, TN

85. Tennessee Bureau of Investigation, Memphis Regional Crime Laboratory, Memphis, TN

86. Tennessee Bureau of Investigation, Nashville Regional Crime Laboratory, Nashville, TN

87. Austin Police Department Forensic Science Division, Austin, TX

88. Dallas County Southwestern Institute of Forensic Sciences, Dallas, TX

89. Houston Police Department Crime Laboratory, Houston, TX

90. Tarrant County Medical Examiner's Criminalistics Laboratory, Fort Worth, TX

91. Vermont Forensic Laboratory, Waterbury, VT

92. The Bode Technology Group, Inc., Lorton, VA

93. West Virginia State Police, Forensic Laboratory, South Charleston, WV

94. Wisconsin State Crime Laboratory, Madison Crime Laboratory, Madison, WI

95. Wisconsin State Crime Laboratory, Milwaukee Crime Laboratory, Milwaukee, WI

96. Wyoming Division of Criminal Investigation Crime Laboratory, Cheyenne, WY